

North Carolina Cooperative Extension - 1999 -

Major Program Accomplishments



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

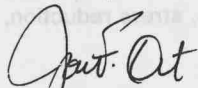
Program Overview

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.

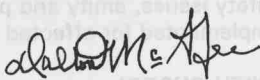
In 1999, North Carolina Cooperative Extension completed the fourth and final year of its long range plan entitled, *Foundations For The Future*. The plan consists of twenty Cooperative Extension Major Programs, which address priority needs of the state's citizens, within the construct of Extension's 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



Dalton H. McAfee,
Associate Dean and Associate Administrator

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 (SHIIP) 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 Generalls 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 selfesteem; 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 totally \$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
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* 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.

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.

North Carolina Cooperative Extension Major Program Accomplishment Report 1999

Cooperative Extension Major Programs (CEMP):

- CEMP # 1 - AGING WITH GUSTO!**
- CEMP # 2 - AGRICULTURAL AND NATURAL RESOURCES POLICY**
- CEMP # 3 - AGRICULTURE AND THE ENVIRONMENT**
- CEMP # 4 - ANIMAL PRODUCTION AND MARKETING SYSTEMS**
- CEMP # 5 - CHILD CARE**
- CEMP # 6 - COMMUNITY AND ECONOMIC DEVELOPMENT**
- CEMP # 7 - CROP PRODUCTION AND MARKETING SYSTEMS**
- CEMP # 8 - FAMILY AND CONSUMER ECONOMICS**
- CEMP # 9 - FAMILY AND PARENT EDUCATION**
- CEMP # 10 - FOOD AND FOREST PRODUCTS MANUFACTURING**
- CEMP # 11 - FOOD SAFETY AND QUALITY**
- CEMP # 12 - HEALTH AND HUMAN SAFETY**
- CEMP # 13 - LEADERSHIP AND VOLUNTEER DEVELOPMENT**
- CEMP # 14 - MARKETING AND PRODUCTION OF ALTERNATIVE INCOME OPPORTUNITIES**
- CEMP # 15 - NATURAL RESOURCES CONSERVATION AND MANAGEMENT**
- CEMP # 16 - NUTRITION AND WELLNESS**
- CEMP # 17 - RESIDENTIAL AND COMMUNITY HORTICULTURE, TURF, FORESTRY, AND PEST MANAGEMENT**
- CEMP # 18 - RESIDENTIAL AND COMMUNITY WATER AND WASTE MANAGEMENT**
- CEMP # 19 - RESILIENT YOUTH, FAMILIES, AND COMMUNITIES**
- CEMP # 20 - YOUTH DEVELOPMENT**

CEMP #1 - AGING WITH GUSTO!

A. Synopsis of Program Focus:

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. Participants learn how to prepare for and cope with finances, legal issues, health issues, caregiving, housing choices and self-care. Primary audiences served are older adults, midlife adults and family caregivers, of all backgrounds.

B. Overall Narrative:

Now in its fifth year, the Aging with Gusto! program continues to attract a great deal of public interest and serve increasing numbers of individuals across the state. **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.** Again this year, field faculty continued to offer training on positive aging, financial planning, estate planning, food safety, caregiver support, nutrition and wellness, and newer offerings on Medicare, long-term care insurance, grandparents raising grandchildren, aging awareness, family communication, and telemarketing fraud, to name a few. Many counties offered or collaborated in offering full-day "extravaganzas" with multiple topics and presenters, each attended by 150-200 people. Others offered series of group lessons or individual instruction. 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. Evaluation reports show high impact with knowledge gained and local task forces instigated. Overall, the Aging with Gusto! program continues to emphasize partnerships with other community organizations and agencies. Notable partnerships this year include state agencies (Division of Aging, Department of Insurance, Division of Community Health), Area Agencies on Aging, county councils on aging, health departments, departments of social services and public schools, as well as community colleges and other universities.

C. Accomplishment Numbers Deemed Significant:

The Aging with Gusto! program had a great deal of success in helping people in the area of family resource management. 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.

The results were even more impressive for efforts designed to help participants improve health status. Over 10000(10498) increased awareness and knowledge of healthy behaviors such as lowering fat intake or increasing fiber in diets and 4261 reported adopting healthier nutritional practices such as decreased fat intake, decreased sodium intake or increased fruit and vegetable intake. A large number (6125) reported adopting behaviors to meet the Food Guide pyramid guidelines and 1801 adopted practices which lead to physiological changes such as decreases in blood cholesterol, pressure, sugar and/or excess weight. Additionally, many people increased awareness and knowledge of better practices regarding medication management (1463) and food safety (584), adopted improved food safety practices (342) and other practices that lead to improved health status (general) (1458). All in all, 6376 persons improved health status through the adoption of improved health practices, with an estimated impact of \$82050 in costs avoided through reduced risk of chronic disease and \$33820 in reduction in the number of physician visits. Additionally, \$10106 was the estimate of costs avoided through improved medication management and \$16200 due to improved food safety and storage practices.

Several hundred persons attended programs for caregivers. Over 1600 (1642) increased knowledge of community resources, 1695 increased knowledge of caregiving skills, and 453 increased knowledge regarding legal, financial and health care decision-making. Over 300 (385) reported adopting practices that improve the care of the care receiver and 460 reported adoption of stress management and other self-care practices. The impact of programs addressing caregiving include improved quality of life/decreased stress for 744 givers, improved care for 450 care recipients, increased use of community resources by 942 caregivers and improved interagency cooperation on aging and health promotion issues, reported by 150 individuals.

D. Volunteers Involved: 526

E. Number of Units Reporting Per Objective:

Objective 1: 27

Objective 2: 18

Objective 3: 10

Objective 4: 2

Objective 5: 13

F. Success Stories:

1) Older adults are reluctant to develop in-depth estate plans for whatever the multitude of reasons. Many of these adults experienced the depression era and feel a compelling need to hang-on to possessions and not face estate plans and wills. Cooperative Extension's Estate Planning programs and publications provide unbiased educational information. Recently one couple (private and wealthy) visited to share how the programs sparked at last (sic) their establishing a living trust with the additional guidance of a local certified estate planning attorney. They were grateful to Extension. A random sample of the 125 attendees indicated 65% have developed estate plans, while others increased knowledge. Due to public interest programs will continue yearly---Amelia Watts, Rowan County.

2) Many of Caswell County's senior citizens are taking more than three medicines and have trouble managing their medications. During a Partners in Wellness session "Medication Check Books" were given to the 92 participants. One senior citizen reported that she became ill and had to be carried to the Emergency Room. Although she was non-responsive, she had her completed check book in her purse and the doctors were able to determine what she was on and how she should be treated. Another said she filled it out and then discussed it with all of her doctors so that each would know what she was taking. Other participants asked for extra copies to give to family members---Donna Pointer, Caswell County

3) Our SHIIP (Seniors Health Insurance Program) volunteers conduct a valuable educational program with older adults as they share money-saving information on health insurance. One of the 8 volunteers in the program has counseled with 30 individuals concerning health insurance. An estimated total of \$24,000 was saved by these 30 individuals over a period of 6 months. The QMB (Qualified Medicare Beneficiary) program was included as a part of the educational process for SHIIP. As a result, 8 clients have saved \$4000 during the past 6 months. The volunteers receive numerous letters of thanks from clients and their family members; they have served well as advocates for Cooperative Extension---Melinda Houser, Lincoln County

4) Aging with Gusto Extravaganza is a regional effort of 7 northeastern counties to provide experiences and resources to citizens on positive aging. Of the 213 in attendance at the Fall 99 AWG Extravaganza, 35 were from Hertford County. 86 percent of participants responding to the evaluation said they were motivated to make choices that will improve their health because of the extravaganza. Participants attending previous AWG Extravaganzas cited that they followed what they learned, were eating better and exercising, had a more positive outlook and were more concerned for better health. One participant reported having had a colon check-up following AWG workshop session and planned to get one regularly. A positive Hertford County outcome was requests from 2 participants for the sittercise exercise tape for use with Senior Center groups. Aging with Gusto Extravaganza is an opportunity for citizens to be provided with experiences and resources for positive

aging—Sandra Woodward, Hertford County

5) A survey in the Pleasant Garden School district revealed that people were very concerned about caregiving and had limited knowledge of available resources for caregiving. CES and the local church co-sponsored a caregivers conference cooperating with 20 regional agencies and resource providers. The event was held for a 4 hour period on a Sunday afternoon to accommodate caregivers. Eighty participants attended this "Planning Ahead" conference. One of the main focuses was to lend support, understanding and share information. Participants overwhelmingly reported increasing knowledge of available resources, learning new ways to alleviate stress and take care of oneself as well as provide better caregiving. County agencies are networking to begin a support group. CES has compiled a resource guide for Seniors with all CES brochures available. CES was well recognized for organization and leadership skills exhibited during the planning and implementation of this conference—Sandra Brown, McDowell County

G. Person Completing Report: Luci Bearon

CEMP #2 - AGRICULTURAL AND NATURAL RESOURCES POLICY

Public policy issues recognize the need for both policy and technical dimensions in educational programs. CEMP #2 focusses 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 under CEMP #2 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.

1999 Accomplishments Summary - CEMP #2

Accomplishments in the area of Agricultural and Natural Resources Policy included water quality education as a major focus. The Neuse River Education team has conducted tours of water quality projects in the riverbasin for elected officials and others interested. This has resulted in increased understanding of how rules are affecting economic growth in the basin. Cooperative Extension is also assisting with BMPs (Best Management Practices) and fostering better understanding among stakeholder groups. Other Extension agents have helped educate farmers about the new environmental rules to improve understanding and help them comply. Extension's public issues education, enabled livestock producers in Franklin County to have input into the proposed Tar-Pamlico Riverbasin rules by gathering information and participation in public hearings. They were able to persuade the Environmental Management Commission to exempt pastured animals.

Land use planning and farmland preservation is another important thrust of agriculture and natural resources policy education. The King Creek Restoration Project in Stanly County as part of the Clean Water Trust Fund is educating landowners to increase awareness of and get buy-in for the project. Conservation easements for impacted properties are being sought.

A Land Use Plan in Moore County was developed after 32 meetings with over 1050 citizens involved. Since adoption of the plan, additional meetings have helped citizens better understand zoning. One member of the "opposition" stated that, "we cannot be against the land use plan because we helped write it." Extension's involvement with a farmland protection program in Durham County has led to Person County showing interest in a similar program.

Economic development was another agriculture and natural resource issue involving policy components with Extension playing an educational role. In the Piedmont region, leaders in seven counties of the Yadkin-Pee Dee Riverbasin have begun to forge new partnerships to discuss integrating economic growth with area

natural resources. To this end a tourism resource inventory has been done and a regional tourism conference is planned. Extension also played a role in facilitating the Governor's Rural Prosperity Task Force focus groups which were designed to gain input from citizens on economic development support needs of rural areas.

Number of Units Reporting Accomplishments - CEMP #2:

Objective 1: **14**

Objective 2: **11**

Objective 3: **7**

Measures of Progress:

Objective 1: Participants will improve their understanding of existing and evolving domestic/international agriculture and natural resource issues, legislative and regulatory options, and their impacts.

Participants in educational programs focussing on environmental and natural resource issues: **3692**

Objective 2: Participants will increase their understanding of and involvement in, the process by which US, NC and local agriculture and natural resource legislation, rules, and regulations are developed.

Participants in educational programs that focus on the process by which agricultural and natural resources legislation, rules, and regulations are developed: **1202**

Objective 3: Participants will understand and use the public issues education process including the principles of conflict resolution and facilitation in conducting educational programs and in helping to resolve local issues.

Participants in educational programs dealing with public issues education and conflict resolution: **1268**

Impact:

Objective 1:

1. Increased knowledge and awareness of environmental and natural resource issues and policies - number of participants who demonstrate: **1545**

2. Increased knowledge and awareness of environmental legislation and regulations affecting agriculture - number of participants who demonstrate: **1465**

Objective 2:

1. Participants with increased knowledge of the policy making process - number

who demonstrate: **971**

2. Increased public participation in policy making - increase in number participating: **490**

Objective 3:

1. Participants adopt public issues education, conflict resolution, and facilitation principles and techniques - number adopting: **1014**

2. People participating in a collaborative problem solving process to resolve a community/public issue - number participating: **270**

3. Community/public issues resolved through collaborative problem solving - number issues resolved: **13**

Volunteers involved and value:

Objective 1: **203** volunteers, **1520** hours, value: **\$15200**

Objective 2: **164** volunteers, **1195** hours, value: **\$11950**

Objective 3: **91** volunteers, **435** hours, value: **\$4350**

Success stories:

Fred Miller, Catawba County

Catawba County is experiencing tremendous growth which is draining its financial resources. Recently, County staff conducted a Growth Strategies Report to determine how best to manage this growth. The strategies recommended as a result of this study will have a direct impact on rural landowners. However, many of these citizens do not fully understand these strategies. To meet these needs, Cooperative Extension conducted an educational workshop which provided a broad overview of land use planning strategies and then looked specifically at the strategies chosen by Catawba County. Thirty-five landowners participated in the workshop and all expressed an increased level of understanding. Also as a result of the meeting, ten landowners attended the public hearing conducted to review the growth strategies recommendations with two participants making public comments. Both speakers indicated they gained the confidence necessary to present the farmer's point of view through their participation in Extension's workshop.

Marjorie Rayburn, Chowan County

As part of the Governor's Rural Prosperity Task Force, focus groups were held around NC to receive input on rural economic development issues. Early meetings were not well advertised or attended - few participants represented agriculture. Through Extension's efforts, over 50 attended in Williamston, many personally invited by Extension. Some agents helped facilitate.

Rural residents expressed concerns about the rural economy in northeastern NC, and suggested action steps. Topics included infrastructure, education, small business, agriculture, health. Using an affinity diagram technique, participants wrote ideas on "Sticky notes" and categorized them. Each person's ideas were acknowledged. Over 50 individuals received training in affinity diagrams for collaborative problem solving. They gained experience using the technique to identify concerns of rural areas and devise solutions to address them. Through this exercise, citizens had input into the political process. Their ideas should be considered in developing economic policies involving rural economic development.

Bob Pleasants, Wayne County

Extension coordinated a tobacco farm tour for twenty-plus congressional aides, during which the aides learned about burning tobacco, received a minority-race farm family's perspective on government programs, and discussed with ten local farm and agribusiness leaders issues associated with government farm policy. The aides left the county with an improved understanding of how farm policy impacts local producers.

Craven Hudson, Person County

Overcoming farmer's perception of the ramifications of the Neuse Rules has been a major educational focus in 1999. Farmers had based their opinions on partial understanding and lots of misinformation. Extension, as a member of the Local Advisory Committees (LACs), held 16 informational meetings in convenient locations to help farmers understand the rules and how to comply. Five hundred seven people attended these meetings in the Falls Lake Watershed. The meetings were contentious at times. Conflict resolution and facilitation training paid huge dividends in keeping meetings orderly and educational. One farmer from northern Orange County remarked, "I'm surprised to see you at this meeting after the hard time you got the other night." The perseverance paid off as over 180 farmers (507 number included duplications and nonaffected) agreed to sign up to work with the LACs. They learned the primary message of the meetings; LACS offer flexibility and options.

Overall Narrative (program progress and accomplishments) CEMP #2.

Areas of programming in agricultural and natural resources policy in 1999 included water quality, waste management, riverbasin rules and regulations, economic development issues, farm programs, land use planning, farmland protection, environmental regulations affecting farmers, environmental education for homeowners, improving relationships between agriculture interests and non-farm populations, and how farmers could provide input to legislators.

Much of the water quality education focused on the Neuse Riverbasin and was part of the effort of the Neuse Education Team of Extension Agents. Activities included grower meetings, newsletters, and news articles to inform farmers about the rules and help achieve compliance which is now over 75%, encompassing over 41,000 acres. After educational meetings, many farmers opted to sign with Local

Advisory Committees instead of being faced with mandatory practices such as buffers. Elected officials from the lower Neuse basin toured water quality demonstration sites including constructed wetlands and no-till tobacco in the upper Neuse. They learned about water quality improvement efforts there and interacted with officials in the upper Neuse basin. The Neuse Education Team's educational efforts have increased knowledge and understanding about Neuse rules among farmers, environmentalists, elected officials, and other citizens in the basin.

Other riverbasins face similar concerns. Extension is involved in a variety of educational programs to inform farmers and citizens about water quality issues and how they can be involved in the rule-making process. In the Tar-Pamlico basin, the Franklin County Cattleman's Association had impact on the Environmental Management Commission's decision to "exempt" pastured livestock from the proposed rules. King Creek in western North Carolina is part of a Clean water Management Trust Fund Grant for restoration of the river. Meetings with landowners helped increase their awareness of the project and solicited their input to achieve buy-in to the project and support for conservation easements. New Hanover County used a Tidal Creeks Committee to disperse remediation funds from a Clean Water Trust Fund Grant and conduct educational meetings. Extension will be managing the Airlie Gardens development which includes water quality education. The Chowan Riverbasin has an ongoing EPA 319 Grant to look at best management practices in the basin to reduce nutrients going in the Chowan River.

Animal waste management training continues for swine producers and the swine industry. Dry litter poultry operators were also trained as certified animal waste operators. Requirements for training and recertification have resulted from concerns about the potential for water quality degradation from these operations.

Economic development activities included soliciting input through focus groups of citizens as part of Governor Hunt's Rural Prosperity Task Force. Impact of changing farm programs on the agricultural economy were discussed along with proposed action steps to deal with concerns of farmers and local agribusinesses. Tourism is sometimes seen as an "industry" that can help local economies without harming the environment. A Tourism Conference is planned for central North Carolina. Leaders in seven counties of the Yadkin-Pee Dee River area have begun to form new partnerships to discuss how to integrate economic growth with concern for natural resources.

Several counties worked on land use planning, zoning, and farmland preservation issues. By involving citizens in developing the plans for Moore county, they were better able to support it and helped ensure its adoption by the planning board. Citizens involved in the process gained a better understanding of zoning regulations and an opportunity to provide input. Farmland protection and preservation were issues in several counties. Cherokee County passed a Farmland Preservation Ordinance. Extension is involved in educating landowners about the program, how it will affect landowners, and its potential benefits. Durham County's Farmland Protection program which includes voluntary ag districts has led to interest in similar programs for Person and Wayne counties and interest from the Mid-Neuse Nonpoint Source Team. The Durham County Farmland Protection Board is also working with The American Farmland Trust to try to leverage more assistance for their program.

Farm-City celebrations in many areas help educate urban residents about the value of agriculture and agribusiness to the economy and quality of life. Citizens were also educated on the environmental and political issues facing agriculture. Farmers learned about the Food Quality Protection Act and how it might affect their operations, especially the availability of certain pesticides. Farmers in some areas met with local and Congressional representatives to discuss environmental issues and how they affect the cost of production. They also shared the need for government financial assistance to enable producers to meet environmental regulations.

A wide variety of Extension programs focus on agriculture and natural resource issues with a policy component. Education is provided on technical aspects of these issues and policy implications. Individuals learn about rules and regulations and how they can have input into the process and impact the results.

CEMP #2 members and co-chairs:

Leon Danielson, Co-chair
Marjorie Rayburn, Co-chair
Ted Feitshans
Charles Hammond
Lanny Haas
Craven Hudson
Michele Marra
Steve Smutko
Nancy White
Greg Jennings, Administrative Liaison

CEMP # 3 - AGRICULTURE AND THE ENVIRONMENT

Program Overview

Agriculture and the Environment State Major Program mission is to develop and implement educational programs to improve the clientele understanding of the complex relationships between agriculture and the environment. Programs were targeted to seven clientele groups:

Livestock, poultry and fish producers;

Field crops producers;

Nursery, greenhouse, turf and landscape professionals;

Agribusiness professionals;

Agricultural service agencies;

Special interest groups; and

Pesticide certification and training.

Abstract

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 advertent of negative environmental impacts.

Objective 1: Livestock, poultry, and fish producers will adopt and promote economically and environmentally sound practices to manage water and waste materials for the purpose of improving air and water quality protection.

4.1 Units Reporting Accomplishments: 43

5.1 Statewide Measures of Progress:

3,118 land application operators of animal waste trained and certified
550,000 acres nutrient testing (319,929 acres soil test analysis; 226,384 acres land application having waste analysis; 11,476 acres having plant tissue analysis)

770,897 tons feed analysis

86,808 acres conservation practices implemented/maintained

40,667 tons waste composted

294 manure application equipment calibrated

6.1 Statewide Impacts:

73,706 tons reduction in soil erosion (loss) resulting from conservation practices implemented on animal production lands

25 M pounds nitrogen, 14 M pounds phosphorus with a value of \$16 M were utilized as crop fertilizer.

3881 out of 7,621 producers utilize approved waste utilization plans.

600 farms utilized best management practices: (83 walking trails, 117 stream crossings, 250 managed streambank vegetation and 368 mortality composters)

74 permit and water quality violations or odor complaints against livestock producers were issued compared to 86 the previous year.

7.1 Volunteers involved

414 volunteers contributed 4,156 hours valued at \$41,560. The estimated value of the animal waste management education programs in counties making cost/benefit analyses were as follows:

Value to Targeted Audience: \$ 2,568,126

Value to Society: \$ 2,639,600

8.1 Success Stores:

Local System: Ienoir

Person Reporting: Jackie Nix

Hay production is preferred method of utilization of nutrients from animal wastes. However, unless hay is removed from application fields, nutrients have not been properly removed. In an effort to help livestock producers sell hay to outside sources (thus removing nutrients) the Southeastern NC Hay Directory was formed by collaborative effort. The directory provided advertisement for 56 hay producers from 20 SE NC counties in 1999 and was distributed to over 200 potential hay buyers. In addition, the web-version was accessed over 550 times in the past year. The hay directory has also been crucial in helping Eastern North Carolina farmers to find hay sources in the wake of Hurricanes Dennis and Floyd. Nine producers expressed in a survey that they had collectively gained approximately 25 buyers due to participation in the directory in the past year resulting in over \$9,500 in increased hay sales.

Local System: Alexander

Person Reporting: Kathy Bunton

Alexander County's 155 poultry growers are facing mandated waste regulations that come into effect on January 1,2000. Since October of 1997,668 growers in

Alexander and surrounding counties have attended 25 Dry Poultry Litter Management Workshops and have been instructed on how to properly apply poultry litter to meet the N requirements of an actively growing crop, proper soil and litter analysis, and the requirements mandated by senate bill 1217. Since January 1, 1999 192 poultry growers have received one-on-one instruction in waste plan completion, 3 workshops for flock supervisors and 6 meetings for growers have been held. 75 percent of the growers in Alexander County have completed plans or plans in process.

9.1 Summary Narrative

Nutrient management educational programs for both wet and dry animal waste management systems continue to be an educational program focus. During 1999, the primary focus was educational programs to provide continuing education credits for certified operators of animal waste management. Impact of these program as reported by county agents include adoption of BMP's that resulted in improved record systems, more stream buffers zones, less soil erosion, decreased operating costs, and reduced excess nutrient build up in soil.

Objective 2: Field crop producers will adopt and promote economically and environmentally sound practices to manage water, soil, nutrients and pesticides for the purpose of improving water quality protection.

4.2 Counties Reporting Accomplishments: 42

5.2 Statewide Measures of Progress:

1.8 M acres conservation practices on cropland : (Conservation tillage, 465,132 acres; no-till, 696,753 acres; residue management, 415,897 acres; nutrient management, 306,500; controlled drainage, 236,585 acres)

408 miles of forested riparian buffers were installed along intermittent and perennial streams.

884 acres of biotechnological controls were used: IPM (687,789 acres), scouting (617,122 acres), and biological control (267,104 acres).

72,310 acres on 1,125 farms were treated with field borders, filter strips and permanent wildlife cover.

6.2 Statewide Impact:

71,636 pounds reduction in pesticides usage

3,807 pounds reduction in commercial nitrogen fertilizer usage

15,059 pounds reduction in commercial phosphorus fertilizer usage

176,238 tons reduction in soil erosion compared to conventional tillage practices

4,881 acres wildlife habitats established

7.2 Volunteers involved and value

425 volunteers contributed 4,814 hours valued at \$48,140. The estimated value of the field crop environmental education programs in counties making cost/benefit analyses were as follows:

Value to targeted audience - \$ 5,839,340

Value to Society - \$ 15,282,400

8.2 Success Stories:

Local System: macon

Person Reporting: Kenneth N. McCaskill

Macon county farmers with poor stands or low producing varieties of forage in pastures either pastured more acres or were forced to plow and replant in order to improve production. The local interagency council (RDP/FAC) provided funds to repair and maintain a sod drill for use in

conservation plantings. Growers are able to lease for \$5 per acre a machine that would cost over \$10,000 for an individual to own. Seventy acres were no-till seeded during 1999 using this equipment with improved varieties or to improve stands. This practice reduced erosion over conventional tillage and seeding methods by an estimated 2.5 tons per acre and increased the value of forage produced by \$50 per acre. This collaborative effort allows limited resource farmers to increase productivity, have access to equipment which would be cost prohibitive individually, and at the same time protect water quality for the general public.

Local System: Bertie

Person Reporting: William J. Griffin, Jr.

Bertie County has three major rivers that either join or go through the county. The county also has a lot of sandy land that is prone to wind erosion. Program emphasis has been on no-till and minimum till farming methods. Acres of reduced tillage has increased to over 45,000 acres in 1999. A large majority of acres are strip tilled using hooded sprayers for weed control and never having to be cultivated. Educational programs have assisted farmers in equipment selection, equipment adjustment, herbicide selection rate. Results have been a reduction in soil loss, reduction in tillage

trips, time savings on land preparation, increase in organic matter and reductions in wind damage. The educational programs being implemented by Bertie County farmers have resulted in a \$450,000 savings.

9.2 Narrative Summary

The use of biotechnologies rather than traditional/conventional practices reduced pesticide usage by over 70,000 lbs. Nitrogen commercial fertilizer, compared to conventional use or previous rates, was reduced by 4,000 lbs while commercial phosphorus fertilizers were reduced by over 15,000 lbs. Soil loss was reduced by about 175,000 tons. Wildlife habitat was established on nearly 5,000 acres. The estimated value of the field crops environmental programs is estimated at over 20 million dollars.

OBJECTIVE 3. Nursery and greenhouse growers, turf and landscape professionals will adopt and promote economically and environmentally sound practices to manage water, soil, nutrients and pesticides for the purpose of improving water quality protection.

4.3 Counties Reporting Accomplishments: 27

5.3 Statewide measures of progress:

1558 (29% increase from 1998) Commercial Nurserymen and Greenhouse Growers adopted BMPs related to water, soil and nutrient management strategies including techniques such as cycled irrigation (477 ; 35% increase over 1998); water re-use (368; 45% increase); split application and/or controlled release fertilizers (1590; 10% increase); foliar/soil test analyses to determine fertilization rates and timing (1247; 32% increase); conservation practices (1130; 23% increase); and integrated pest management (2084; 28% increase over 1998).

3,167 tons waste products re-cycled due to nursery, greenhouse, turf and landscape education programs: (18,125 acres of where water management programs have been implemented, and an estimated 5,893 acres where erosion control practices have been included in the use and activities and 31,000 acres with nutrient management).

1352 new licensed pesticide applicators for ornamentals and turf in 1998. Other certification and licensing training held and number of participants include: new registered landscape contractors (65); new certified plant professionals (129); and new certified landscape technicians (54).

6.3 Statewide Impacts:

2,620 people adopted environmentally friendly pest management practices.

3,100 tons of waste products are re-cycled.

31,000 acres involved in 'Green Industry' management.

7.3 231 Volunteers contributed 1678 hours valued at \$16,780. The total estimated value of nursery, greenhouse, and landscape environmental education programs was:

Value to Targeted Audience: \$ 1,976,690

Value to Society: \$ 2,843,443

8.3 Success Stories

Local System: lee

Person Reporting: Debbie Roos

Professional landscapers are continually in need of up-to-date information on plant pest identification and integrated pest management. The Cooperative Extension Service in Lee and Chatham counties collaborated to hold a Plant Pest Workshop for 29 landscapers and pesticide applicators in September. Classes were taught by the Agricultural Agent and a Specialist from North Carolina State University. Landscapers received two continuing

education credits for participating in the training. In an evaluation of the workshop, 97 percent of participants rated the training as above average or outstanding and indicated they would apply the concepts learned to their management practices.

Local System: wayne

Person Reporting: Lewis S. Howe, III

Eastern NC coaches who manage turf and recreational turf managers were identified as a green industry group needing training in their profession. With their schedules so involved during school, we targeted mid September as a better time on a Saturday. Cooperative Extension and City of Kinston along with the Grainger Stadium facilities planned, conducted and evaluated a field day just for this green industry audience. The 36 coaches and managers indicated that this was outstanding training they would use on their fields. One coach said, "We have needed this type of training for years and you (NCCE and Tommy) have provided us information that we can go back and put to practice." Another indicated that I can save thousands of dollars just by timing the management practices presented!

9.3 Narrative Summary

The Ornamental, Turf and Landscape industries make up one of the largest population of professional clientele trained by the cooperative extension programs. Over 7500 participants (7530) were provided training and re-certification credits as licensed pesticide applicators for ornamentals and turf. Concern for the environment and timely training are changing soil, water, nutrient and pesticide application and management practices of "Green Industry" professionals. Over 2000 people (2084) have adopted environmentally friendly pest management practices. Over 3000 tons of waste products are re-cycled. As a result extension education programs, best management practices have been implemented on over 31,000 acres involved in 'Green Industry' management. Conservation programs including water conservation, erosion controls, run-off water capture and re-use and practices to reduce nutrient application rates and loss have been implemented.

Objective 4: Agribusiness professionals will adopt and promote economically and environmentally sound practices to manage water, soil, waste materials, nutrients, pesticides, and petroleum products for the purpose of improving air and water quality protection.

4.4 Counties Reporting Accomplishments: 15

5.4 Statewide Measures of Progress

142 industry meetings and trade shows

4070 agribusiness professionals acquired information

120 environmental educational programs sponsored by agribusiness.

6.4 Statewide Impacts:

228 companies produced literature

97 environmental products and equipment marketed

7.4. Volunteers involved

276 volunteers committed 1381 hours for a estimated value of \$13,810 of volunteer labor. The estimated value of the environmental educational programs were:

Value to targeted audience \$ 1,387,255

Value to society \$ 1,331,300

8.4 Success Stories

Local System: Wilson

Person Reporting: Cyndi Lauderdale

There is a need for landscapers to share successful techniques with one another. The Wilson County Green Association and Cooperative Extension coordinated an annual educational tour. Approximately 20 landscapers participated in this tour. You can not put a value on the new ideas, simplified procedures, and knowledge gained on the tour. Because of this openness to share, the landscape/nursery industry is growing to a \$26,000,000 industry in Wilson County.

Local System: jones

Person Reporting: Minton Small

In 1999, Extension's involvement has been extensive in working with NRCS and FSA relating to conservation practices being implemented. Nutrient Management Plans were also implemented on 1572 acres. Savings per acre were \$5.00 of reduced fertilizer cost. The total savings were

$\$5 \times 1572 = \7860 . NCDA has been the licensing agent for commercial applicators and private pesticide licensees. Extension has networked with NCDA by providing the technical training for 43 private applicators and two pesticide credit classes for commercial applicators in 1999. Extension has networked with USDA/RECD on the Pollocksville Waste Water Application System. Extension has networked with the White Oak River Basin Committee, Jones County Quality of Natural Resource Alliance and the Neuse River Basin Committee to reduce nonpoint pollution and improving water quality resources by promoting Best Management practices.

9.4 Narrative Summary

Extension faculty conducted 142 industry meetings and trade shows promoting environmentally sound agriculture, with 4070 agribusiness professionals participating. In addition, there were 120 environmental educational programs sponsored by agribusiness. During the year, 288 companies (a 28 % increase over the previous year) produced literature promoting the use of BMPs and environmentally sound production. In addition, 97 environmental products and equipment were marketed for use in agricultural pollution control.

Objective 5: Extension will network with agricultural service agencies including NRCS, ASCS and NCDA to promote economically and environmentally sound practices to manage waste materials, nutrients, pesticides, and reduce nonpoint source pollution for the purpose of improving air and water quality protection.

4.5 Units reporting accomplishments: 42 counties

5.5 Statewide measures of progress

262 multi agency coalitions initiated

382 multi agency educational programs delivered

6.5 Statewide Impacts:

256 collaborative projects implemented

1764 publications, reports and interactions were generated

7.5 Volunteers Involved

678 volunteers contributed 5362 hours valued at \$ 53,620.

Value to targeted audience: \$ 4,117,498

Value to society: \$ 10,053,700

8.5. Success stories

Local System: Scotland

Person Reporting: David Morrison

The N.C. Cooperative Extension Service, Scotland County Center in cooperation with Scotland County government developed a pesticide container recycling program in 1996. Over 600 pesticide containers were collected and recycled in 1999. Using a figure of \$15 a square yard to dispose materials in the landfill, we have saved the county \$3000 in disposal costs. Pesticide container recycling also reduces the numbers of containers that are illegally disposed by burning and allows companies to save resources by using these recycled materials.

Local System: Onslow

Person Reporting: Danny Shaw

All Onslow farmers faced a crisis situation with 20 inches of rainfall associated with Hurricane Floyd. Extension agents in Onslow worked around the clock to provide assistance and estimate needs. I personally witnessed agriculture agents delivering hay to stranded cattle in an aluminum jon boat. Agents in Onslow also developed a networking system with USDA sister agencies to survey damages and assess damages within hours of the passing of the storm. Even though all parts of the county were cut-off by flood waters a system was in place to provide, compile and report

important information. Consequently, Onslow's agriculture community was in recovery as soon as the storm passed.

9.5 Narrative Summary

The collaboration of Extension with other state and federal agencies continues to be successful as we partner to protect the waters of North Carolina from nonpoint source pollution. Nutrient and manure management continues to be extremely important in North Carolina. Animal waste management plans written as a part of the North Carolina Nondischarge Rules (.0200s) will reduce nutrients entering the waters of the state. Mandatory and voluntary education programs that have been conducted have and will continue to minimize the potential for environmental impacts.

Objective 6: Special interest groups (including public officials, environmental activists, the media and consumers) will increase their understanding of and appreciation for the complex relationships between agriculture and the environment.

4.6 number of Units Reporting: 26

5.6 Statewide measures of progress

210 community and special interest environmental educational programs.

88 educational programs on BMPs

6.6 Statewide Impacts

22 local policies adopted

217 media stories promoting a positive image of agriculture

7.6 Volunteers involved

592 Volunteers contributed 2,696 hours valued at \$ 26,960. The total value of citizen type agricultural/environmental educational programs is:

Value to Targeted Audience:\$ 1,481,715

Value to Society: \$ 3,276,305

8.6 Success stories

Local System: Franklin

Person Reporting: William Lord

The mobile teaching laboratory also known as the "Neusemobile" was set up at Clayton High School in Johnston County, N.C. on September 1, 1999 to facilitate a day-long integrated educational approach to water quality improvement in the Neuse River basin. The primary teaching tool employed was a plexiglass groundwater model, used in conjunction with a portable nitrate meter to test student collected well water samples for nitrate contamination. Vocational agriculture and environmental biology classes were targeted for instruction, but the event was covered by the high school journalism class for the school newspaper and the school's closed circuit video program. The school marketing class studied the presentation of educational materials by the Neusemobile and the Neuse Education Team staff manning the unit, and a business class focused on economic issues related to water quality in Johnston County. Over 180 students learned directly about water quality issues related to the Neuse River

Local System: Duplin

Person Reporting: Star W Maready

Fifty one honors high school students from Duplin County, a state representative, senator, and history teacher, attended a seminar on the economics and environmental impacts of swine production on March 5, 1999. Seniors tested their knowledge of the swine industry by participating in a quiz bowl led by Ed Emory, Duplin County Cooperative Extension Director and Star Maready, Agricultural Extension Agent with Cooperative Extension. The students then used the knowledge gained in the quiz bowl and Extension publications to discuss whether the moratorium for expansion of the swine industry should be permanent or lifted to allow for expansion by the swine industry. This seminar allowed for the students to interact with one another and gave the students an opportunity to share their thoughts with state decision makers. The state representative made notes of the information the seniors presented and is ready to cite some of the seniors' comments in House discussions.

Local System: Johnston

Person Reporting: Eric Spaulding

With a need to obtain constant regulatory and agricultural situation updates, local farmers and agribusiness professionals met monthly for educational/professional improvement meetings and one educational tour resulting in 750 becoming aware of economically and environmentally sound practices to manage water, soil, waste materials, nutrients, pesticides, and forests for the purpose of improving air and water quality. These agricultural leaders then voluntarily shared information gained with other leaders, their business customers, neighbors, and other farmers who adopted many of the practices identified. Among these leaders are county commissioners, agricultural

lenders, a senator, House representatives, fertilizer, seeds, and pesticide dealers. This

is the 22nd consecutive year that the Johnston County Agribusiness Council has met every month for educational/professional improvement meetings and tours.

9.6. Narrative Summary

Cooperative extension coordinated 210 community and special interest environmental educational programs. Ninety-five programs were conducted to promote greater use of best management practices. Twenty local policies were 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 21,822 citizens in educational programs. Enhanced attitude toward agriculture was reflected by 217 media stories promoting a positive image of agriculture.

Objective 7: Pesticide Certification and Licensing Program

4.7 Number of Units reporting accomplishments: 76

5.7 Statewide Measures of Progress totals:

10,220 pesticide applicators adopted one or more BMPs on 883,399 acres.

11,011 applicators were certified or recertified to purchase and use restricted use pesticides.

132,867 plastic pesticide containers were recycled.

6.7 Statewide Impacts totals:

\$4.6 million were saved in production costs

67,000 pounds less pesticides used on cropland

\$334,500 were saved in disposal costs from recycled pesticide containers

18 citations (a 38 % reduction from previous year) for improper pesticide application or handling practices

1 case of pesticide worker illness compared to 5 reported in 1998,

7.) Volunteers involved and value:

530 volunteers contributed 7762 hours valued at \$77,620. The total estimated value of the pesticide certification and licensing program was:

Value to Target Audience: \$2,732,147

Value to Society:

\$6,781,672

8.7 Success stories:

Local System: Davidson

Person Reporting: Troy E. Coggins

The Davidson County Cooperative Extension Service in conjunction with the Davidson County Solid Waste Management Department has started an empty pesticide container recycling program. Initial funding for this program was achieved by submitting a grant proposal to the NCDA&CS. We were awarded \$7,350.00. Since May 6, 1999, 115 private and commercial applicators and dealers have been trained to properly prepare their empty pesticide containers for recycling, informed as to where and when containers will be collected, and taught how to properly complete the record keeping forms that would be collected by the sight attendant. 48 people have signed an agreement to recycle 80% of their empty containers and received a pressure rinse nozzle, free of charge. In addition, the program should be self supporting. A plastic recycling company has contracted to purchase our empty containers for \$0.05 per pound. All pesticide applicators (including commercial applicators, public, private dealers, and consultants) were provided training opportunities in pesticide BMP to protect worker health, crop safety, beneficial insect populations and other environmental protection issues. Over 350 applicators attended one of eight different certification or recertification classes provided.

Local System: Lincoln

Person Reporting: Matt Taylor

Local farmers are always seeking ways to reduce production costs and increase profits. The Cereal Leaf Beetle IPM program was started to assist clients in achieving that goal. Farmers are taught how to monitor their fields and how thresholds should be used to make pesticide application decisions. A new idea tried this year was to evaluate the maturity stage of the crop as a decision making tool. If the crop had headed, then spraying was not advised. As a result of following this program, 18 producers (over 2700 acres) saved a total of over \$26,000 and reduced pesticide applications by 5500 pounds.

9.7 Narrative Summary

The Pesticide Certification and Licensing Program provides a vital link between NC CES and NC's farmers. Training conducted by NC CES field staff has resulted in substantial financial benefits to producers and contributed to environmental quality. Building a strong partnership with the NCDA & CS undergirds this successful outreach.

CEMP-03 TEAM MEMBERS

Dan Bailey	Ted Bilderback (Obj3)	Wayne Buhler (Obj 7)
Allen Calwell (Cochair)	Daniel Campeau	Tom Carter (Obj1)
David Crouse (Obj5)	Robert Evans (Cochair)	Ted Feitshan
Billy Little	Rich McLaughlin	Deanna Osmond (Obj2)
James Pitman	Matt Poore	Kim Powell
Noah Ranells	Karl Shaffer	Ron Sheffield
Matt Taylor	Stephen Toth	Mitch Woodward
Kelly Zerling		

CEMP # 4 - ANIMAL PRODUCTION AND MARKETING SYSTEMS

Program Description: The animal sector of North Carolina's agriculture accounts for over half of the farm-gate value. Diverse animal enterprises range from the vertically integrated poultry and swine industries to enterprises such as horses with a recreational emphasis. Growing interests in small ruminants (particularly goats) and in various aquaculture enterprises complement established beef cattle and dairy production systems. The Cooperative Extension Major Program on Animal Production and Marketing Systems (CEMP-4) addresses programs for these diverse animal industries through three objectives and several subcommittees. The first objective is directed at enhancing commodity-related production and marketing and includes seven subcommittees, each with agents and specialists with interests in the respective commodity areas. The second objective deals with general public education about animal agriculture and is coordinated by the overall CEMP-4 committee. The third objective is directed at youth leadership development through participation in animal-related projects and activities, coordinated by another subcommittee of agents and specialists.

Accomplishments Summary:

Objective 1: Producers and marketers of livestock, poultry, and aquatic species will select, adopt and successfully implement practices or enterprises that will achieve business, individual, and family goals related to profitability and quality of life.

Number Of Units Reporting: 58

Measures of Progress:

1.*Increased awareness and knowledge of best management production practices

NUMBER OF DAIRY PRODUCERS INCREASING KNOWLEDGE: 572

NUMBER OF BEEF CATTLE PRODUCERS INCREASING KNOWLEDGE: 7244

NUMBER OF HOG PRODUCERS INCREASING KNOWLEDGE: 1607

NUMBER OF HORSE PRODUCERS INCREASING KNOWLEDGE: 7133

NUMBER OF SHEEP OR GOAT PRODUCERS INCREASING KNOWLEDGE: 1479

NUMBER OF POULTRY PRODUCERS INCREASING KNOWLEDGE: 1764

NUMBER OF PRODUCERS OF AQUATIC SPECIES INCREASING KNOWLEDGE: 372

NUMBER OF LIMITED RESOURCE PRODUCERS INCREASING KNOWLEDGE: 888

Totals: 21,059

2.*adoption of best management practices that optimize income

NUMBER OF DAIRY PRODUCERS ADOPTING: 341

NUMBER OF BEEF CATTLE PRODUCERS ADOPTING: 2183

NUMBER OF HOG PRODUCERS ADOPTING: 502

NUMBER OF HORSE PRODUCERS ADOPTING: 2136

NUMBER OF SHEEP OR GOAT PRODUCERS ADOPTING: 565

NUMBER OF POULTRY PRODUCERS ADOPTING: 1110

NUMBER OF PRODUCERS OF AQUATIC SPECIES ADOPTING: 146

NUMBER OF LIMITED RESOURCE PRODUCERS ADOPTING: 401

Totals: 7,384

3.*application of improved farm financial planning practices and procedures

NUMBER OF DAIRY PRODUCERS APPLYING: 175

NUMBER OF BEEF CATTLE PRODUCERS APPLYING: 532

NUMBER OF HOG PRODUCERS APPLYING: 207

NUMBER OF HORSE PRODUCERS APPLYING: 311

NUMBER OF SHEEP OR GOAT PRODUCERS APPLYING: 310

NUMBER OF POULTRY PRODUCERS APPLYING: 197

NUMBER OF PRODUCERS OF AQUATIC SPECIES APPLYING: 44

NUMBER OF LIMITED RESOURCE PRODUCERS APPLYING: 105

Totals: 1,881

*Impacts:

1.*Income optimized through adoption of recommended nutrition practices

DAIRY PRODUCERS, DOLLARS GAIN: 870570

BEEF CATTLE PRODUCERS, DOLLARS GAIN: 1116267

HOG PRODUCERS, DOLLARS GAIN: 268137

HORSE PRODUCERS, DOLLARS GAIN: 394286

SHEEP OR GOAT PRODUCERS, DOLLARS GAIN: 60977

POULTRY PRODUCERS, DOLLARS GAIN: 262891

PRODUCERS OF AQUATIC SPECIES, DOLLARS GAIN: 109325

LIMITED RESOURCE FARMERS, DOLLARS GAIN: 89753

Totals: 3,172,206

2.*Income optimized through adoption of recommended breeding practices

DAIRY PRODUCERS, DOLLARS GAIN: 143800

BEEF CATTLE PRODUCERS, DOLLARS GAIN: 553227

HOG PRODUCERS, DOLLARS GAIN: 40515

HORSE PRODUCERS, DOLLARS GAIN: 77790

SHEEP OR GOAT PRODUCERS, DOLLARS GAIN: 45669

POULTRY PRODUCERS, DOLLARS GAIN: 19460

PRODUCERS OF AQUATIC SPECIES, DOLLARS GAIN: 160099

LIMITED RESOURCE FARMERS, DOLLARS GAIN: 20213

Totals: 1,060,773

3.*Income optimized through adoption of recommended marketing practices

DAIRY PRODUCERS, DOLLARS GAIN: 187300

BEEF CATTLE PRODUCERS, DOLLARS GAIN: 765786

HOG PRODUCERS, DOLLARS GAIN: 544882

HORSE PRODUCERS, DOLLARS GAIN: 46179

SHEEP OR GOAT PRODUCERS, DOLLARS GAIN: 70908

POULTRY PRODUCERS, DOLLARS GAIN: 902000
PRODUCERS OF AQUATIC SPECIES, DOLLARS GAIN: 117599
LIMITED RESOURCE FARMERS, DOLLARS GAIN: 31994

Totals: 2,666,648

4.*Income optimized through adoption of recommended building/facilities practices
DAIRY PRODUCERS, DOLLARS GAIN: 547025
BEEF CATTLE PRODUCERS, DOLLARS GAIN: 148630
HOG PRODUCERS, DOLLARS GAIN: 37038
HORSE PRODUCERS, DOLLARS GAIN: 96661
SHEEP OR GOAT PRODUCERS, DOLLARS GAIN: 20680
POULTRY PRODUCERS, DOLLARS GAIN: 913225
PRODUCERS OF AQUATIC SPECIES, DOLLARS GAIN: 139204
LIMITED RESOURCE FARMERS, DOLLARS GAIN: 9079

Totals: 1,911,542

Volunteers Involved and Value: Number: 2210 Hours: 18503 Dollar Value: \$185030

OBJECTIVE 2: North Carolina citizens (farm and non-farm) will address issues of mutual concern that relate to animal agriculture, including human nutrition, nuisance identification, food quality assurance, quality of life, economic impacts, and the appropriate treatment of farm animals.

Number of Units Reporting: 36
Measures of Progress:

1.*improved knowledge and attitudes about animal agriculture
NUMBER FARMERS DEMONSTRATING: 4069
NUMBER OF NON?FARM CITIZENS DEMONSTRATING: 54748

Farm and Non-Farm Totals: 58,817

2.*newspaper, and other mass media stories/commentaries indicating enlightened information and knowledge about animal agriculture
NUMBER: 300

Impacts:1.*Increased understanding and appreciation of animal agriculture
NUMBER FARMERS DEMONSTRATING: 3480
NUMBER OF NON?FARM CITIZENS DEMONSTRATING: 52741

Farm and Non-Farm Totals: 56,221

2.*Increased understanding of food supply facts and quality standards
NUMBER FARMERS DEMONSTRATING: 2947
NUMBER OF NON?FARM CITIZENS DEMONSTRATING: 49748

Farm and Non-Farm Totals: 52,695

3.*farms adopting appropriate standards, practices, and procedures to address industry concerns and issues

NUMBER ADOPTING: 2012

Volunteers Involved and Value:

Number: 618 Hours: 1967 Dollar Value: \$19670

OBJECTIVE 3: Youth involved in animal projects will improve personal development and learn leadership and other skills related to animal husbandry including: record keeping, finances, producing high quality animal products, sportsmanship, and appropriate treatment of animals.

Number of Units Reporting: 32

Measures of Progress:

1.*Increased skills/knowledge gained by participation in animal projects and events.

Number of Youth demonstrating:

NUMBER OF DAIRY: 901

NUMBER OF BEEF: 1204

NUMBER OF SWINE: 1364

NUMBER OF HORSES: 1438

NUMBER OF SHEEP: 1346

NUMBER OF GOATS: 887

NUMBER OF POULTRY: 934

NUMBER OF RABBITS: 807

NUMBER OF AQUATIC: 225

NUMBER OF LIMITED RESOURCES: 517

Totals: 9,623

2.*Number of youth demonstrating advanced skills and knowledge through participation in multi-state, national, or international events due to youth animal project work.

NUMBER OF YOUTH DEMONSTRATING: 148

Impacts: 1.*Scholarship dollars received by youth animal project participants

SCHOLARSHIP DOLLARS RECEIVED: \$20267 BY NUMBER OF YOUTH RECIPIENTS : 83

2.*Dollars above realistic market price provided to youth by community supporters of youth animal project activities and sales

PROJECT DOLLARS (above market price) RECEIVED \$559381
BY NUMBER OF YOUTH PARTICIPANTS: 1112

3.*Number of youth who have demonstrated enhanced personal development and leadership skills as a result of participation in animal-related projects and events: i.e. public speaking skills; improved decision making; effective assistance of other youth projects.

NUMBER OF YOUTH DEMONSTRATING ENHANCED PERSONAL DEVELOPMENT AND LEADERSHIP SKILLS: 681

VOLUNTEERS INVOLVED AND VALUE:

NUMBER: 1,607 HOURS: 13,378 DOLLAR VALUE: \$133,780

Hurricane Floyd Efforts: As a result of Hurricane Floyd and the devastation it caused, the last quarter of 1999 was dominated with dealing and coping with the disaster it left behind. Many farm families lost animals while homes, buildings and equipment were damaged or destroyed and much of the feed supply was wiped out. As never before, livestock agents from across the state worked hand in hand with other governmental agencies, animal industry personnel, trucking companies and volunteers to deal with the set of complex issues and problems. Extension played a major role in heading up this effort and helped animal owners get their lives put back together. Getting feed and keeping animals fed, search and recovery, and dead animal recovery and disposal were some of these unique problems. Without the hard work and dedication of Extension Livestock Agents and Specialists, many citizens in Eastern North Carolina would have found it very difficult to get their lives back to any normalcy and many livestock producers would have been unable to stay in business and maintain their livelihood.

General Narrative: In 1999 Livestock, Poultry and Aquatic species producers in North Carolina selected, adopted and implemented practices or enterprises that achieve business, individual and/or Family goals of profitability and quality of life. From reports gathered across the state, 21,059 producers improved production practices by increased knowledge through Extension's programming efforts. Of these 7,384 producers adopted best management practices that optimized income, and 1,881 applied improved farm financial planning practices and procedures. Collectively, it is estimated that \$8,811,169 in income was due to 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 6400 farmers and 102,489 non-farm citizens demonstrating understanding of animal agriculture, food supply facts and quality standards. It is estimated that 2,012 farms adopted standards, practices and procedures to address industry concerns and issues. In conducting these programs 2,828 volunteers were collectively involved committing 20,470 hours at a value of \$204,700 in assisting and delivering these programs.

Our Youth are a major concern in the extension livestock program in North Carolina. 9,623 youth demonstrated increased skills and knowledge by participation in animal

projects and events. Of these, 148 youth 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 \$559,381 above market price for the 1,112 youth involved. These benefits were provided to the participants by community supporters of youth animal project activities and sales. These 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 youth as a result of being a part of project-related events such as 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.

Aquaculture: A demonstration using current production knowledge about yellow perch helped 4 producers to become involved in the yellow perch production industry. The income for two fingerling producers exceeded \$30,000 for the year. Three more producers are interested in the results of the second year of the demonstration so that they may also make an informed decision about entering into the industry.

A major catfish fingerling producer asked for assistance with a disease affecting incubating catfish eggs. A treatment regimen of 15 parts per thousand of salt in a bath treatment was recommended and implemented, resulting in survival and hatching of embryos. This small research based suggestion saved our state's industry approximately 8 million fingerlings (1/4 State's production) worth an estimated \$720,000. A new catfish producer was uncertain how to complete construction of his facility without going over budget. Suggestions from Cooperative Extension included: 1) work with neighbors using "in kind" sharing of labor and, 2) take multiple bids for farm construction projects, resulted in savings of over \$20,000. This maintained the integrity of the facility and kept the producer within his budget.

In 1999, trout farms produced an estimated 4.874 million pounds (up 22.6 percent from 1998) with estimated sales of \$5.56 million (up 27 percent from 1998) with the average sale price of \$1.14 per pound. Water temperature data, generated from temperature data loggers, is used in the Trout Farm Production Forecasting Computer Program. This program was written by Skip Thompson and predicts when trout will reach market size and was used more than 30 times in 1999. This computer program has been adopted by the NCDA&CS Aquaculture Specialist and was used to project trout growth and to forecast production on 8 farms in 1999. The program is the basis for trout farm business plans developed by the NCDA&CS Aquaculture Specialist. Three trout producers are using the program themselves.

The Web Site for Commercial Trout Aquaculture in Western North Carolina received 178,889 hits in 1999 (38% increase from 1998) from 28,082 users (48% increase from 1998). This is an average of 6.4 hits per user and 490 hits per day. The web site was initiated in January 1997, is receiving almost 15,000 hits from more than 2300 users per month. There are 39 fact sheets and 19 links to other aquaculture information. The users are predominately from the United States, but users are also

from Canada, Australia, Germany, France, UK, Slovak Republic, Malaysia, Netherlands, Japan, Chile, Arab Emirates (United), New Zealand (Aotearoa), Italy, Ireland, Mexico, Singapore, Israel, Colombia, Ireland, Slovenia, Denmark, Portugal, South Africa, Brazil, Belgium, Finland, Croatia (Hrvatska), Costa Rica, Spain, Argentina, Malaysia, Sweden, Dominican Republic, Ecuador, Peru, Taiwan, Sri Lanka, Turkey, Norway, Thailand, Switzerland, Bulgaria. This web site is administered by Skip Thompson, Area Specialized Agent, Aquaculture.

Assistance was provided in 14 cases in identifying and controlling disease episodes. Injection vaccination of trout for Enteric Redmouth Disease was demonstrated at Tellico Trout Farm in Macon county, Whitewater Trout Farm in Transylvania county, and Jennings Sunburst Trout Farm in Haywood county. Howard Brown, CEO of Carolina Mountain Trout and owner of CR Brown Feed Mill in Andrews indicated that he purchased 20% of the normal amount of medication in 1999 for control of disease, a direct savings of \$32,000 in spite of severe drought conditions, which would normally increase the incidence of disease. Decreased disease resulted from two program accomplishments: 1.) increased acceptance and use of injection vaccination for Enteric Redmouth disease; and 2.) more farms have implemented oxygen injection systems to circumvent low water flow periods.

The North Carolina Fish Barn program has been active for the past 10 years. This campus-based extension and research program has developed and demonstrated new technology for growing fish indoors in tank systems. More specifically, the systems developed in this program reuse water and capture waste before being discharged. In 1999, a private agribusiness group in North Carolina (Southern Farm Tilapia) built and started a new large scale commercial fish barn. With the productive capacity to grow 250,000 pounds of tilapia fish per year, the Southern Farm Tilapia fish barn was designed in cooperation with the NC State Fish Barn project. The system was started and stocked with fingerling tilapia in July of 1999 and the first harvest occurred in November 1999. This new facility should begin a new industry for North Carolina.

Beef Cattle: From data across the state, 1.55 million dollars is the estimated economic return to the people of North Carolina from the beef cattle program. However, those dollars do not measure all of the impact of programs on families, communities, and the state. Families- It isn't just the added income the beef enterprise brings to a farm, but that the enterprise allows a son or daughter to return to the farm and, hopefully, maintain the family farm tradition. The CEMP-4 report contains many examples of how extension has helped families cope with economic, production and natural disasters. Communities - The real value of the dollars, time and hay donated to the victims of hurricane Floyd is difficult to estimate. Extension agents worked unceasingly, sometimes in filthy conditions, to overcome the damage and minimize future problems. The State - The 26 agents that reported represent about a third of the total and agents did not report on every program; just those that highlighted an effort. Since all counties have access and benefit from the beef commodity programs, the economic impact is far greater than reported.

Feeder cattle production is and will continue to be an important beef enterprise in North Carolina. Graded Sales provide a viable alternative for marketing and increasing profits for producers who utilize them. A total of 17,111 feeder calves and 947 yearlings were sold in the fall of 1999 through 20 graded cattle sales across North Carolina. These sales are designed to provide a marketing outlet for small to medium sized beef operations, where producers can co-mingle their calves into larger, uniform lots of similar type cattle.

Increased lot size is critically important in the current beef cattle marketing system. A comparison of sale averages from graded cattle sales and similar averages for weekly auctions demonstrates that cattle sold through the graded sales system consistently outsell weekly auction cattle. In the fall of 1999, this graded cattle premium averaged approximately \$31.50 per head for steers and \$23.50 for heifers. When attributed to all graded cattle sold last fall, this financial difference allowed graded sale consignors to retain an additional \$478,000. In most instances, graded sale cattle shrink less before weigh-in than do weekly auction cattle. This difference arises because graded cattle are weighed in upon delivery whereas weekly sale cattle are weighed just before sale. We estimate this difference saves approximately 2% on an average basis, meaning weekly auction cattle typically lose 10 additional pounds per head while waiting to be weighed. Naturally at some sales this may not happen while at others there would be a considerably larger shrink difference. This 2% shrink savings would add another \$8 to \$10 per head to graded sale consignor returns, or an additional \$150,000 for the season.

Agents in Surry, Person, Catawba, and Franklin Counties reported collective savings of over \$34,000 when numerous local producers cooperatively purchased mineral and feed supplements, taking advantage of bulk discounts. Other program efforts in beef quality assurance, reproductive management, sire selection, and forage management have helped producers in many counties improve the economic return of their beef enterprises.

Dairy Cattle: Extension provides dairy producers with current pertinent educational programs through many venues including state and county newsletters, area and state dairy meetings and workshops, county and state demonstration and applied research projects, web pages, popular publications and personal consultations. Approximately 25% of dairy farms were represented at a series of area meetings in the Fall of 1999 and 25% at the state dairy conference. Extension also assists in organizing and providing educational programs at breed meetings, breed field days, and Dairy Herd Improvement meetings. Dairy newsletters are received by over 90% of dairy producers who evaluate it as an effective resource.

Development of leadership is essential. Therefore, extension assists the North Carolina Dairy Producers Association in developing leadership for the industry. In the Western District, a specialized advisory council of agribusiness representatives and dairy producers identifies opportunities and works together to accomplish goals for the industry. One agent has participated in an international exchange program with Bolivia,

providing technical information to dairy producers through a visit to Bolivia and then hosting a Bolivian visitor. A specialist spent a month in Armenia providing training in extension methodologies.

Narrow and fluctuating profit margins continue to be a critical issue with dairy producers. Volatile milk prices are a part of the problem. Extension works with dairy producers to improve profitability and competitiveness with improved marketing strategies, farm financial records, and better control of operating costs. Extension conducted a series of educational meetings where dairy producers learned the basics of milk marketing including the trading of options and milk futures pricing. A Rowan County dairy producer successfully opted on milk futures on 3 different occasions. In less than 3 months, he has netted over \$12,000 above what his normal milk checks have paid him. His input costs were less than \$1600 on all 3 options purchased. His willingness to share his experiences has prompted 14 other dairy producers to consider futures or options as a way to ensure a base price for their milk.

Improved production practices continue to receive emphasis. Increased adoption of proven profitable practices can make North Carolina dairy producers more profitable, competitive and sustainable as well as increasing quality of their product.

The following provide examples of farmer successes in a diverse area of educational efforts:

- The extension milk quality program seeks to reduce somatic cell counts through improved management rather than increased use of antibiotics. High quality milk has a low somatic cell count. Three dairy producers in Gaston County made management changes to improve milk quality. One producer's somatic cell counts dropped from 750,000 cells/ml to 350,000 cells/ml, and another's dropped from 600,000 cells/ml to 325,000 cells/ml.
- Reproductive performance of dairy farms has been declining nationally as measured by days open and services per conception. A Guilford County producer included his herd in a statewide demonstration project that placed the cows into groups that compared estrus and ovulation synchronization. Those in the estrus group were bred when seen in heat following the hormone protocol, while the ovulation group was time bred following the hormone protocol. Estrus-bred cows had a pregnancy rate of 35% compared to the statewide study average of 25%; the ovulation-bred cows had a pregnancy rate of 45% compared to statewide study average of 32%. The producer was thrilled to see this improvement in the herd's reproductive performance that also improved his profitability.
- An Orange County dairy producer attended an animal waste management system operator-in-charge recertification class on fly and rodent control, and requested individual extension assistance. Two weeks following implementation of a rodent control program, the problem was under control. A minimum saving was estimated at \$2000 in reduced annual feed loss. He plans to continue the control measures.
- With emphasis on the correct selection and management of forages, dairy producers are able to realize increased animal performance as well as reduced feed cost through high quality forages. Producer participants in this program in Yadkin County have

realized feed cost savings of approximately \$12,000.

- Based on financial records of dairy producers, the major expense associated with milk production is feed. Lowering feed costs by utilization of least cost balanced rations is essential. Dairy producers in Yadkin and the six surrounding counties have saved approximately \$165,000 over the last six months utilizing balanced rations, forage analysis and DHIA.

Horses: The extension horse short course and clinic series attracted participants from throughout the United States and several foreign countries. Eleven short courses, two national symposiums, and three clinics provided horse owners and equine professionals with detailed information on nutrition; forage management; health care; foal, broodmare, and stallion management; fencing; training; behavior and exercise physiology. Participants included 1,886 horse owners from 19 states, whose surveyed responses valued the short courses at an estimated value of \$785,198. Horse management information was provided in seven, one-hour videotapes mailed to 19 sites.

Over 270 horse owners participated in the NCSU Horse Field Day held at the Equine Educational Unit. Participants reported an estimated \$86,931 dollars saved or earned as a result of the field day.

The Regional Equine Information Network System (REINS) provided certification training to twenty-six new volunteers. Two coordinator's short courses were conducted for twenty-five regional volunteer leaders. Courses focused on environmental management and emergency management and disaster relief. A seven-part horse management video conference for horse owners was conducted in nineteen counties in eight REINS regions. REINS volunteers in five regions organized EIA (Equine Infectious Anemia) clinics in twelve counties testing a total of 329 horses. Two regions also offered rabies vaccinations as part of their clinics. Region 1 developed educational alliances with several horse groups to facilitate the provision of educational programs and information by REINS volunteers to horse owners across the region. Region 2 volunteers conducted a barn tour/fund raiser that attracted 200 participants, raised \$2,000 and netted 100 new members for their regional REINS organization. A Region 12 volunteer has created an equine emergency rescue group comprised of sixteen volunteers that have responded to four calls, saving all of the horses involved. Region 8 volunteers conducted a "hay and feed lift" of 64 tons of feed in November to aid flooded horse and livestock producers in two counties within the region. REINS volunteers, working with sixteen coordinating agents in fourteen regions, have provided 5,633 hours of volunteer service valued at \$78,862. Over 15,000 horse owners have received direct assistance through REINS.

Cooperative Extension Agents throughout North Carolina reported numerous success stories during 1999 with horse programs. EIA (Equine Infectious Anemia) clinics, field days, educational meetings, and on-farm demonstrations were held throughout the state. Barn tours increased in popularity during 1999, and they included educational programs on equine health, barn construction, nutrition, and forage management.

Environmental issues, water quality, pasture management, in addition to traditional programs such as educational meetings, county conferences, newsletters, and farm visits, continue to be provided to interested citizens.

An increase in media attention was given the horse industry in North Carolina during the past year. The News and Observer, UNC Public TV, and many local media coverage was given to this growing and dynamic agricultural commodity. Humanitarian projects, such as a "hay and feed lift" to flooded horse owners after Hurricane Floyd, was a prime example of assistance provided by the NC Cooperative Extension Service Agents and volunteers. Money and horse supplies from the public were also coordinated through the NC Cooperative Extension Service. General public awareness concerning the horse industry through the use of festivals, agriculture field days and media was all positive in 1999. These educational programs impacted the lives of over 50,000 North Carolina citizens.

Poultry: One of the primary advantages of a vertically integrated poultry industry is that it enables North Carolina producers to quickly respond to recent scientific and technological advancements generated by fundamental and applied research, field demonstrations, and team involvement. Take for example the effort of faculty from the College of Agricultural & Life Sciences, College of Veterinary Medicine, and members of the South Carolina Diagnostic Laboratory in Clemson, SC. In their continued quest to control turkey coronavirus (TCV) and in response to requests of integrators, growers, and NCDA officials, the team developed and provided maps identifying the locations of farms positive for TCV in addition to identifying all turkey farms within a two-mile radius of TCV positive farms. Because several turkey integrators in North Carolina also have farms in South Carolina and Virginia, the farm locations of interest were not restricted to North Carolina. The geographic information system developed by NCDA included all poultry farms, but utilized the Quadrant Block Point System (QBSP) to identify farm locations. Because this system is unique to NC, farms in SC and VA could not be included. Using global positioning equipment, NC farms are now located by latitude and longitude. This system is compatible with the systems developed for SC and VA. As a result, turkey producers now receive maps indicating the locations of new TCV cases and high-risk farms within a two-mile radius of case farms. This disease identification system allows integrators to re-route traffic away from known positive farms, thereby reducing the potential for disease spread. Furthermore, the South Carolina diagnostic laboratory now distributes TCV disease reports to NC producers and researchers, via e-mail.

Turkey producers have experienced considerable variation in quality and livability of poult produced from young and older breeder hens. Poults from hens in their first 3 to 5 weeks of egg production are generally smaller in size, have higher mortality, and have lower weight yields. To determine the factors responsible for these variations, NCSU Poultry Science faculty discovered that the liver and intestinal bacterial profiles differed between these two groups and that intestinal *Escherichia coli* organisms isolated from young hens were more resistant to commercial antibiotics. These noted differences, other environmental factors, and the possibility that the immune system

of younger breeder hens is less developed than older birds are presumably some of the factors contributing to the variation in commercial poult quality. Based on the greater antibiotic resistance of some bacterial isolates taken from young hens, it was recommended that turkey growers be more cautious about using antibiotics as growth promotants, but instead substitute equally effective, non-antibiotic growth enhancers to the diet.

Other successful projects include the development by Poultry Science Extension faculty of a website for the North American Gamebird Association. Since its development this site is receiving approximately 1,000,000 hits per month. Field trials and research studies by Extension Poultry Science faculty have continued to explore the use of Direct-Fed Microbials (DFM) in upland wild gamebird feeds. Based on the successful information generated from these studies, approximately 30% of all gamebird producers nationwide are using DFM products. Moreover, all Southern States Cooperative gamebird feeds, ratite feeds, and backyard poultry flock feeds now contain this DFM.

Some examples of where Extension field faculty have directly benefitted the North Carolina poultry industry are highlighted below. In one case, a local farmer in Chatham county was faced with a problem that one of his houses was encroaching on the right-of-way for a major highway road improvement project and thereby threatened the viability of his operation and contractual arrangement with the integrator. To address this problem a meeting was arranged between the farmer, a NCDOT representative, and the Extension agent which in the final analysis yielded the farmer nearly \$100,000 more than NCDOT's original assessment.

An estimated 60 million cu.ft. of bedding material is used annually for poultry production in North Carolina. Currently most of the bedding is wood shaving or sawdust by-products. The availability and cost of shavings and sawdust are often a problem for poultry producers. Mixed paper, a type of paper that is difficult to recycle, has been shown in NCSU research trials to have the potential to be used as bedding for poultry. Field trials were conducted in 2 curtain ventilated broiler houses with foggers for evaporative cooling and three broiler houses with tunnel ventilation and evaporative pad cooling. Bird performance on wood shavings in the tunnel ventilated houses was the same as the paper product with the exception of some minor caking observed during the first flock. The birds in the naturally ventilated houses containing evaporative cooling pads had increased down grades due to the presence of bare backs resulting from poor feather growth and behavior problems. The positive results in the tunnel ventilated broiler houses has encouraged local development officials to consider building a paper processing facility to avoid having to dispose of the mixed paper in land fills.

Disposal of poultry and swine mortality continues to challenge producers for a number of reasons. For example, burial practices are being questioned by environmental protection officials because of potential ground water contamination, incineration options may cause air quality problems, and traditional rendering practices are too

costly or present biosecurity disease risks for the producers. An alternative process is currently under development by Poultry Science Extension faculty that encompasses on-farm preservation of poultry and swine mortality using either phosphoric acid or freezing followed by shipment to a central processing facility for receiving a final heat treatment through a flash dehydration system. The successful field trials demonstrated that the process destroys any pathogens present in the raw product and produces a stable and nutritious animal feed ingredient. The potential benefits of this technology include a greater percentage of farm mortality being recycled, improved environmental conditions and biosecurity on the farm, the availability of an economical and high quality protein supplement, reduced feed costs, and continued sustainability and growth of the poultry and livestock industries in North Carolina. Presently, poultry and swine producers are moving ahead to adopt this technology which is estimated to save them approximately \$2 million annually in mortality transport costs alone.

Swine: Successful extension programs in swine production and marketing continue to evolve to meet the changing needs and structure of the more vertically integrated industry. The swine industry in North Carolina is a highly sophisticated and knowledgeable group, who has a need for applied research information and technical information and production training. County-based delivery reported that 1,607 producers increased their awareness and knowledge of best management practices for a benefit of \$890,572. Statewide conferences and directed training programs resulted in an additional 1171 producers gaining knowledge. Participants in the Healthy Hogs Seminar series reported that they cared for 522,690 sows, 518,000 nursery pigs, and 701,100 grow-finish hogs.

Genetics: Over 10,000 head of swine were evaluated in the NC On-Farm Performance Testing. Phenotypic changes indicate an additional reduction of 2 days to 250 pounds with .05 inches less fat in breeding animals that are selected to supply replacements in commercial programs producing over 750,000 market hogs annually. If only a 1 day improvement is observed in the market animal total costs of production is reduced by \$.17/head or \$127,500.

Management: A training program on sow body condition scoring and subsequent management was developed and implemented on sow farms with a total of 24 personnel trained and 30,000 sows influenced. Sow farrowing rate was subsequently improved by 20% on one farm due primarily to improved sow condition.

Nutrition: Nutritional research and education was conducted on reducing the environmental impact of swine production through (practical) nutritional means, with a main emphasis on ammonia and odor production, and precision nutrition. Nursery diets are by far the most expensive feeds in the swine production process. Understanding of the cost-benefit ratios for different ingredients is essential from an economic perspective. The importance of this type of research is illustrated by a recent request from one of the largest integrators to set up a committee with representatives from NCSU and the industry to streamline the research and information transfer. This has resulted in the completion and transfer of information from four

applied research trials.

Reproduction: While the swine industry and consumer have benefited greatly from the implementation of AI in swine, the additional procedures associated with this technology have added new challenges in reproductive management. During 1999, research based information was presented to one hundred and twenty five management personal from swine enterprises representing nearly 750,000 sows. The information was presented in a manner that would address specific artificial insemination techniques that if done incorrectly, could reduce the efficiency of sow reproductive performance by as much as 20% (previous research). Additional sow farm evaluations of AI management techniques were conducted for Browns of Carolina's (100,000 sows) to correct problems with post-breeding vaginal discharge in sows. Material and instruction was also provided to ALPHARMA on the current status of semen evaluation in the swine industry. This educational process prevented the premature release of a newly developed semen motility analyzer, which at the time did not provide the information that they desired and could market.

Marketing: Pork quality and safety are the main marketing issues addressed. The importance of these areas were echoed in a Meat Quality discussion group formed with representatives from NCSU, Murphy Family Farms, Brown's of Carolina, and Smithfield Foods to develop applied knowledge to address this area. As a result projects were initiated and information transferred to address pork quality issues.

Dietary vitamin E was evaluated as a potential nutrient to improve pork quality. Preliminary data from these studies indicate that a vitamin E supplementation strategy may be developed that can be directly applied by producers in the field. In addition, supplementation of vitamin C through the water is being evaluated as a relatively cheap and user-friendly method to improve pork quality. Based on the U.S. industry estimates, recommendations derived from this research can result in improved product quality with a maximal value of \$0.79 per pig

A new addition to the NC ON-Farm Performance Testing Program was the availability of pork muscle quality evaluation. In 1999, 450 carcasses were evaluated for color, pH, water-holding capacity and composition. A NC based hybrid seedstock company utilized the resulting information extensively to further market demand for genetics to produce high quality pork products.

Results from a large-scale applied research trial conducted in cooperation with the National Pork Producers Council and Smithfield Foods looked at the impact of on-farm feed withdrawal on the safety and quality of pork were widely disseminated. The results suggest that on-farm withdrawal of feed for 24 h prior to slaughter enhances ultimate pork quality, reduces lacerations of the gastrointestinal tract, reduces bacterial contamination, and does not increase the percentage of cecal samples positive for Salmonella post-slaughter. Feed withdrawal had no statistically significant effects on net revenue from the hogs that had feed withdrawn only once excluding meat quality benefits. However, marketing groups did show significant reductions in

net income for animals that had feed withdrawn. While it is difficult to attach a dollar value to meat quality attributes, the economic results are consistent with the meat quality results: feed withdrawal may be a net benefit as long as feed is not withdrawn more than once.

Small Ruminants: Goat production continues to increase while sheep numbers have been stable. In 1999, 1479 sheep and goat producers increased awareness and knowledge of best management practices with 565 producers adopting practices that optimized income and 310 producers applying improved farm financial planning practices and procedures. These adopted practices and procedures resulted in a total economic impact of \$198,234. Producers adopted herd and flock health; nutrition, marketing and facilities recommendations that have increased income and allowed part-time and limited resource farmers to improve their quality of life. Ashe County formed a goat and sheep association to help meet the needs of local small ruminant producers. Adoption of recommended best management production practices by sheep, goat and beef producers in Cleveland County resulted in \$49,050 in increased farm income. Goat owners in Jackson and Swain Counties saved an estimated \$800 by adopting recommended health practices. A group of goat producers in Franklin County pooled their kid crop together to market directly to the northern ethnic markets. Active participation of goat producers in various field days and conferences should lead to greater collaborative efforts in the future.

Youth Programs: As producers of livestock and milk continue to be challenged by increasing costs of production, new environmental regulations, and a decline in public appreciation of their trade, interest and participation in 4-H Livestock, Horse, and Dairy Programs remains strong and viable. County Agents report increased activities designed to educate non-animal oriented residents about animal agriculture, and the value of agriculture to man. Agents also reported continued interest in the traditional 4-H animal programs that are designed to enhance the knowledge, and life-skills in our youth.

The North Carolina 4-H Horse Program remains among the largest in the country with 14,728 project activities reported by county agents in 1999. Four-H members can participate in twenty-one different educational events. The four-day state 4-H horse show remained the most popular event with over 2,615 entries, which represents a 17% increase over the 1998 show. Over 260 volunteer 4-H horse leaders received training at the Carolina Youth Horse Leaders Conference and in master volunteer leader training sessions on fund raising.

A grant was received in cooperation with a colleague at Virginia Polytechnic Institute in Blacksburg to develop and write a National 4-H Embryology Curriculum which will include a virtual website. The curriculum will be modeled similar to the North Carolina and Virginia curriculum already in place. North Carolina currently attracts about 40,000 youth or 10% of the national number of participants (400,000) in 4-H Embryology.

4-H large animal programs are reaching out to all youth regardless of race, or ethnic origin. Carolyn Stanley, 4-H Agent in Vance County reported that Edward D, a young African American, new to her county, has worked very hard and been highly successful with his 4-H Livestock Projects this year. The North Carolina State 4-H Livestock judging team consisted of one Caucasian and three African American youth who represented North Carolina at two national livestock judging contests.

Several agents reported that their activities designed to allow 4-H youth to share their knowledge with others, who do not have the opportunity to have hands-on experience with live farm animals, were very popular and successful. Agent Travella R. Free stated that 1100 youth participated in Animal Days held at NCA&T State University. While a pre-test indicated that 60 percent of these youth believed that food originated in the grocery store, the post-test indicated that 98 percent of the youth increased their knowledge regarding the role of agriculture in their lives. Area Dairy Agent Sheila Jordan reported that a "Day At The Dairy" was held in Guilford county, allowing youth to experience how a cow is milked, how milk is handled, and how dairy cattle are raised and managed. Youth learned that cows have a four-chambered stomach, eat many by-product feeds, and that milk is used to make ice-cream, which they also enjoyed. Other camps and demonstrations introduced youth to shearing lambs, spinning wool, fitting and showing animals, and animal by-products.

The historical flood provided many valuable lessons for 4-H'ers in Pitt County. Members of the Pitt County 4-H Livestock Club helped evacuate flood trapped residents, served over 3,000 burgers in shelters, assisted with sandbagging activities, and donated clothes and money to flood relief efforts. Pitt County 4-H Agent Dale Panaro reported that through this experience, the youth truly learned what an impact they can have in their community.

Traditional 4-H Youth Programs remain strong and continue to grow, with strong support from organizations like the North Carolina Dairy Youth Foundation, the North Carolina Cattlemen's Association, and the North Carolina Pork Council. Interest and participation in livestock and dairy judging, Stockman's Bowl, Dairy Quiz Bowl, and showing livestock and dairy cattle continues to grow. Agents report that lamb and meat goat projects are increasing, as did participation in the State 4-H Dairy Quiz Bowl, and State Dairy Judging Contest, in 1999. Participating youth and alumni of 4-H animal programs continue to recognize the enhancement of life skills that result from participation in these programs.

CEMP 04 Co-Chairs:

Steve Washburn

Ben Chase

CEMP # 5 - CHILD CARE

Program Description:

The child care Cooperative Extension Major Program has two goals. These goals are to 1. Improve the quality of child care in North Carolina and 2. To increase the availability of child care in North Carolina. To carry out the first goal, Cooperative Extension Agents (mainly Family and Consumer Science and 4-H) conduct training on a variety of topics. This is a traditional role for the Cooperative Extension as an arm of the research university. However, a major new role for agents is in securing financial support in the form of grants and collaborations which serve to support the second goal of increasing the availability of child care.

Abstract/overview:

The needs of the child care community are diverse. Primary among them is the need to improve the quality of care provided by staff through appropriate training. 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.

Child Care continues to be an underfunded community need. The North Carolina Cooperative Extension Service has begun to seek collaborative relationships and grant funding to alleviate this need. Agents report developing or sustaining at least 833 collaborative relationships in support of child care. No other agency, local or statewide, could have such a statewide impact on the child care issue. Acting in collaboration with other community groups Cooperative Extension Agents have generated at least \$984,925 to support child care at the local level. In addition, Agents report that they manage \$1,570,566 in child care dollars. These amounts do not include the \$1,748,360 in grant funds generated by the Departments of 4-H Youth Development and Family and Consumer Science.

Increasing child care availability is sometimes a lengthy process which begins with technical assistance in the form of training, phone calls and site visits. North Carolina Cooperative Extension Agents report that 1,149 potential providers reported improving their knowledge of the child care field and 2,422 current providers reported improving knowledge and skills.

Volunteers play an important role in the effort to increase availability and improve quality in child care. In 1999, 2,515 volunteers contributed 48,692 hours of service. At \$10 per hour this equates to \$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.

Number of Units reporting accomplishments: Objective 1- 54 counties reporting accomplishments; 4 counties reporting no accomplishments

Objective 2 - 35 counties reporting accomplishments; 3 counties reporting no accomplishments

5. Statewide Measures of Progress totals: Objective 1

1. Child care providers will have improved knowledge, attitudes and skills in one or more of the state mandated functional areas.

YOUTH - # OF PROVIDERS REPORTING AN INCREASE: 257

YOUTH - # OF PROVIDERS TRAINED: 554

YOUTH - # OF CHILDREN REACHED BY YOUTH PROVIDERS: 3,658

YOUTH - # OF CUMULATIVE TRAINING HOURS FOR YOUTH PROVIDERS: 2,021

FAMILY CHILD CARE - # OF PROVIDERS REPORTING AN INCREASE: 803

FAMILY CHILD CARE - # OF PROVIDERS TRAINED: 1,341

FAMILY CHILD CARE - # OF CHILDREN REACHED BY PROVIDERS: 9,374

FAMILY CHILD CARE - # OF CUMULATIVE TRAINING HOURS FOR PROVIDERS: 7,102

CENTER CARE - # OF STAFF REPORTING AN INCREASE: 2,911

CENTER CARE - # OF STAFF TRAINED: 5,258

CENTER CARE - # OF CHILDREN REACHED BY STAFF: 41,486

CENTER CARE - # OF CUMULATIVE TRAINING HOURS FOR STAFF: 21,807

SCHOOL-AGE CARE - # OF PROVIDERS REPORTING AN INCREASE: 1,550

SCHOOL-AGE CARE - # OF PROVIDERS TRAINED: 1,747

SCHOOL-AGE CARE - # OF CHILDREN REACHED BY PROVIDERS: 18,133

SCHOOL-AGE CARE - # OF CUMULATIVE TRAINING HOURS FOR PROVIDERS: 9,682

2. Child care providers will implement quality child care practices in one or more of the state mandated functional areas.

OF YOUTH PROVIDERS REPORTING IMPLEMENTATION: 160

OF FAMILY CHILD CARE PROVIDERS REPORTING IMPLEMENTATION: 692

OF CENTER-STAFF REPORTING IMPLEMENTATION: 2,753

OF SCHOOL-AGE CHILD CARE PROVIDERS REPORTING IMPLEMENTATION: 1,062

Objective 2

1. Developed or sustained community collaborative relationships that support child care?

OF COMMUNITY COLLABORATIVES DEVELOPED OR SUSTAINED THAT SUPPORT CHILD CARE: 833

2. Developed or sustained community networking relationships that support child care?

OF NETWORKS DEVELOPED OR SUSTAINED THAT SUPPORT CHILD CARE: 3,922

3. Developed resources that support child care?

DOLLAR AMOUNT EXTENSION MANAGES: \$1,570,566

DOLLAR AMOUNT EXTENSION GENERATES THROUGH PARTNERSHIPS: \$984,925

4. Providers and potential providers receiving technical assistance will report an increase in knowledge and skills in increasing or maintaining child care availability?

OF POTENTIAL PROVIDERS INCREASING KNOWLEDGE AND SKILLS: 1,146

OF CURRENT PROVIDERS INCREASING KNOWLEDGE AND SKILLS: 2,422

Statewide Impact totals:

Objective 1

1. Children in quality child care improve in social-emotional, cognitive, and physical development as reported by parents, providers, and school personnel.

OF CHILDREN DEMONSTRATING IMPROVEMENT: 23,524

2. Total number of all cumulative training hours @ \$20 per hour for all types of providers.

NUMBER OF HOURS CONDUCTING TRAINING: 39,373

Volunteers Involved

Number 1,305

Hours 27,606

Dollar value - \$276,060

Program Cost/Benefit analysis

\$ Value to targeted audience \$3,234,015

Estimated program cost \$1,619,696

Objective 2

1. New slots as a result of direct Extension educational efforts or technical assistance?

OF NEW SLOTS: 3,328

2. New centers/homes as a result of direct Extension educational efforts or technical assistance?

OF NEW CENTERS/HOMES: 123

3. Dollar value of slots Extension created: Calculated as number of slots Extension created multiplied by median family income divided by # of child care eligible children in family?

LOCAL VALUE OF MEDIAN FAMILY INCOME: \$1,292,287

DIVIDED BY THE # OF ELIGIBLE CHILDREN: \$11,582

Volunteers Involved

Number 1,210

Hours 21,086

Dollar Value \$210,860

Program Cost/Benefit Analysis

\$ Value to targeted audience - \$5,569,609

\$ Estimated program cost - \$1,622,177

7. Volunteers involved and value:

Objective 1 - 1,305 volunteers involved

27,606 hours

\$276,060 value @ \$10/hour

Objective 2 - 1,210 volunteers involved

21,086 hours

\$210,860 value @ \$10/hour

Success Stories:

Objective 1 - Training conducted by the CES results in positive effects on staff turnover.

Wilkes County: "When new hires were asked why they wanted to work with Wilkes County 4-H they often said because of the positive reputation the program had and because...they felt comfortable and prepared for their jobs."

Ashe County: As a result of the training offered "the staff turnover rate has been reduced by 20 percent resulting in a feeling of security for children."

Objective 2 - NC CES Agents are successful in increasing the availability of child care and networking to bring resources to the community.

Jackson County: "A new day care center providing space for 60 children will soon be a reality in Jackson County. With over 100 children on the waiting list this center puts quite a dent in the day care picture."

Northampton County: A parent of a student in the after school program started by CES reported that "had it not been for the after school program, her child would not have passed the end of the grade test."

Lee County: Cooperative Extension collaborates with the Lee County Partnership for Children and the Child Care subsidy program. In the past six months Lee County CES has assisted 22 individuals in obtaining information on how to start a child care business , and 3 family home providers have opened for business.

Narrative

The number of counties reporting progress in child care has increased again this year under objective 2; from 33 counties in 1998 to 35 counties in 1999. Given that the work reported under objective 2 is somewhat non-traditional, it is encouraging to note that Agents are adopting new methods of meeting the child care needs in their communities. Objective 1 on the other hand showed a decrease of counties reporting. The numbers are down from the 57 counties in 1998 to 54 counties in 1999. This is despite a rise in the amount of training conducted and increases in all measures of success. In 1999 the Cooperative Extension System began a five year initiative in support of child care programming by Agents. The number of counties who add child care to their county plan of work should increase next year and in subsequent years as a result of this initiative.

The needs of the child care community are diverse. Primary among them is the need to improve the quality of care provided by staff through appropriate training. The North Carolina Cooperative Extension Service is uniquely capable of serving these training needs. The state Department of Human Resources has mandated 13 training areas or topics that all child care providers must have. Cooperative Extension Agents have updated their training to fit the mandated topics.

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 mandated functional topics. It is not surprising 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. Future research needs to be conducted on the impact of

Cooperative Extension training on staff turnover.

Child Care continues to be an underfunded community need. The North Carolina Cooperative Extension Service has begun to seek collaborative relationships and grant funding to alleviate this need. The 3,922 networks that Agents report developing or sustaining are evidence of the strength of the CES in local communities. In addition Agents report developing or sustaining at least 833 collaborative relationships in support of child care. No other agency, local or statewide, could have such an impact on the child care issue. Acting in collaboration with other community groups Cooperative Extension Agents have generated at least \$984,925 to support child care at the local level. In addition Agents report that they manage \$1,570,566 in child care dollars. These amounts do not include the \$1,748,360 in grant funds generated by the Departments of 4-H Youth Development and Family and Consumer Science.

Increasing child care availability is sometimes a lengthy process which begins with technical assistance in the form of training, phone calls and site visits. North Carolina Cooperative Extension Agents report that 1,149 potential providers reported improving the knowledge of the child care field and 2,422 current providers reported improving knowledge and skills.

Volunteers play an important role in the effort to increase availability in child care. In 1999 2,515 volunteers contributed 48,692 hours of service. At \$10 per hour this equates to \$486,920 dollars worth of service to the community. The North Carolina CES will need to develop training specific to child care for the volunteers who assist agents in this field.

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 now 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 committee members and co-chairs:

Carolyn Dunn, Food and Nutrition Specialist

Karen DeBord, Child Development Specialist

P. Carolyn Goodman, FCS Agent Ashe County

Wanda Haddison, FCS Agent Harnett County, Co-Chair

Julie Landry, 4-H Agent Ashe County

Carolyn McKinney, 4-H Agent Mitchell County

Howard Scott, County Director/4-H Agent Wayne County

Carrie Thompson, FCS Agent Nash County

Barbara Vandenbergh, 4-H Specialist - Co-Chair

Deborah Womack, FCS Agent Forsyth County

Lou Woodard, 4-H Agent Johnston County

CEMP # 6 - COMMUNITY AND ECONOMIC DEVELOPMENT

I. Brief Program Description: This cooperative extension major program has four major objectives: (1) integrating special audiences into the local community development process; (2) teaching economic development concepts to local leaders; (3) informing local leaders and citizens about economic trends and their expected impacts on the local economy; and (4) facilitating business development assistance by bringing together local private expertise with local needs for business management information.

II. Abstract: 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. 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 enterprises are beginning to emerge. 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.

III. Units Reporting Accomplishment:

- Objective 1: 22 counties reporting accomplishments
- Objective 2: 8 counties reporting accomplishments
- Objective 3: 8 counties reporting accomplishments
- Objective 4: 9 counties reporting accomplishments

IV. Statewide Measures of Progress Totals:

Objective 1 Special audiences will use information about community services and the community development process to gain skills to participate in community development.

1. Number of participants gaining awareness and knowledge: 727
Total number of participants: 802
2. Number participating in groups: 2123
Total number of participants: 3396
3. New community organizations formed: 16
4. New community development projects formed: 51

Objective 2 Public and private community leaders will use economic development concepts to implement policies promoting sustainable economic development.

1. Number of participants gaining awareness and knowledge of computer models, videos, and fact sheets: 796
2. Applications made of computer models: 22
3. Applications made of videos: 29
4. Applications made of fact sheets: 53

Objective 3 Local leaders, business persons, and educators will acquire information about economic trends affecting local economic opportunities.

1. Number of persons attending conferences who increased their awareness and knowledge: 1115
2. Number of requests for additional information: 393

Objective 4 Existing business persons and potential business persons will acquire information about beginning and running a successful business, including small and home-based businesses.

- II Number of persons attending workshops: 525
- II Number of applications made of videos, notebooks, and fact sheets: 52
- II Number of persons increasing their awareness and knowledge of opportunities: 319
- II Number of persons increasing their awareness and knowledge of market plans and community analysis: 226

Statewide Impact Totals

Objective 1 Special audiences will use information about community services and the community development process to gain skills to participate in community development.

1. Number of special audience persons participating in local public hearings:

847

2. Number of additional special audience persons participating in voting: 113
3. Number of additional special audience persons participating in the labor force: 86
4. Number of additional special audience person participating in the community development process: 613
5. Number of additional special audience persons participating in community development organizations: 1470

Objective 2 Public and private community leaders will use economic development concepts to implement policies promoting sustainable economic development.

1. Number of persons attending local conferences and distance learning conferences: 212
2. Percentage of persons rating conference information useful: 97%
2. Businesses and payrolls attracted to counties as a result of educational information: 3 businesses payroll \$8,000

Objective 3 Local leaders, business persons, and educators will acquire information about economic trends affecting local economic opportunities.

1. Percentage of conference participants rating conference information useful: 66%
2. Number of guidance counselors using information: 30
3. Value of lines of newspaper stories on subject, at \$1.50 per line for 17138 lines: \$25707
4. Value of radio time on subject, at \$20 per minute, for 131 minutes: \$2620
5. Value of TV time on subject, at \$100 per minute, for 97 minutes: \$9700

Objective 4 Existing business persons and potential business persons will acquire information about beginning and running a successful business, including small and home-based businesses.

1. Number of small and home based business start-ups and annual payroll resulting from educational efforts: 29 start-ups \$99750 annual payroll
2. Number of small and home based business plans developed: 15
3. Number of persons increasing their income through participation in the community development process: 132
4. Number of community analyses performed: 2

VI. Volunteers and Value

Objective 1

Number: 670
Hours: 3479
Value @ \$10/hour: \$34,790

Objective 2

Number: 86
Hours: 897
Value @ \$10/hour: \$8,970

Objective 3

Number: 157
Hours: 2366
Value @ \$10/hour \$23,660

Objective 4

Number: 50
Hours: 492
Value @ \$10/hour \$4,920

VII. Success Stories

Numerous examples of successful programs fall into the categories of community development, economic development, tourism, and disaster recovery.

COMMUNITY DEVELOPMENT

FIRST TIME COMMUNITY APPLICANT RECEIVES \$7,500 REWARD! A southwest NC community is the recipient of a \$7,500 neighborhood-matching grant created, edited, advised and technically supported by the Cooperative Extension Service. The funding has been invaluable to the 54 youth with the purchase of 16 cheerleading uniforms and 400 basketball jerseys. Much needed office equipment and general office supplies has increased communication efforts to the 825 homeowners and 4 youth teams formed as a result. Extension maintained continuity throughout the process with emphasis on adhering to guidelines as specified in the grant. The community has accomplished its goal by exceeding the required 758 matching hours of volunteer contacts and has increased their capacity building skills.

On the opposite end of the state, the Cherokee Reservation Extension Staff, Community Club leaders and over 400 volunteers worked together to develop the 2nd phase of the Oconaluftee Island Park. Partnership has been developed with the NCDHENS, EPA, and NRCS to do projects on the island. Over two hundred thousand dollars has been raised by this group to build an amphitheater, walking track, restrooms and a water fountain. During the past year over 300,000 people have used the island park for recreation, family gatherings and fitness. (Walking path and fitness center). This project has had an economic impact of over \$50,000 for the Eastern Band of Cherokee Indians.

TOURISM

Tourism is the second largest industry in Western NC, and according to a survey conducted in the High Country, the residents do NOT want the region to become another "Gatlinburg." Extension partnered with Appalachian State University, several departments at NCSU, A&T State University, Western NC Development Association and over 75 citizens to have a very successful Sustainable Tourism Conference in the High Country in April 1999. This conference focused on Agritourism, nature-based, and cultural/heritage tourism, and public policy. Internationally known and respected speakers presented at this two-day workshop. Over 150 participants attended with very good to excellent evaluations, and a desire to continue to have workshops in the area of Sustainable Tourism, Land-use Management, and conserving and protecting green space. One farmer responded with, "there were many valuable lessons for me--START SMALL, perhaps the best lesson of all."

ECONOMIC DEVELOPMENT

Anson County is in desperate need to attract new industries with the recent closing of several textile industries here in the County. The local extension agent was able to contact and meet with a Chicken Breeder Company that was interested in building a new 6 million dollar hatchery that would employ 60 people. Through this contact and aiding the local economic developer in finding 6 sites for the company to look at, the company has purchased 52 acres and started building the facility. The agent along with the Economic Developer appeared in front of the zoning board to answer questions for rezoning of property.

In another program in Columbus County, the Community Farmer's Market was established as a result of \$10,000 RAFI grant. Local market up and running under leadership of Milton Parker and local committee made up of CES, FSA, Chamber of Commerce, Downtown Development and tobacco growers. Market opened up in May and had 25 vendors actively sell their local fruits, vegetables and ornamentals to a large number of customers across Columbus County. In addition, with the assistance of a member of the N.C. House of Representatives \$25,000 was secured for the market's permanent site. 12 growers qualified for the WIC program. A number of local and downtown merchants strongly support the Columbus Farmer's market. This market is also endorsed by the County Commissioners and the Whiteville City Council.

DISASTER RECOVERY

Hurricanes Dennis and Floyd caused extensive damage to the property of families in the Speed Community. Extension personnel worked with the members of the Speed Community Development Organization to secure names, ages and needs of families and this information was shared with Reidsville Ministerial Alliance and the Extension Staff at N.C. A & T State University. The two groups adopted 43 families and have contributed over \$5,375 in cash and merchandise. The Community Organization has

operated a distribution center and have received contributions of food, clothing and household goods from New York to Florida and have provided assistance to 306 families with a value of \$145,350.00

Extension staff's in several flood-affected counties hosted congressional leaders from across the U. S. to show devastation in the rural areas. The N. C. delegation in Congress requested \$787 million in Ag Disaster Relief in the wake of Hurricane Floyd. This request was partially a result of these tours. We also arranged for meetings between congressional leaders and farmers. Extension called special discussion meetings with producers on disaster assistance. Extension suggestions were a large part of the state and federal disaster packages. Extension arranged for a state legislator to ride with us in a helicopter to assess damage. This legislator used this plus aerial pictures Extension took to share with the Speaker of the House, Governor Hunt, and legislative leaders as he requested financial aid.

VII. Narrative

Program efforts fall primarily in four areas: Sustainable Tourism, Community Development, Hispanic Audiences, and Leadership Development. Some efforts build on established programs and strengths where as others are responding to new identified needs and opportunities.

Sustainable Tourism

Recognizing the need and opportunity for rural communities and individuals to take advantage of the burgeoning tourism industry, extension faculty toured the Northeast to gain a better understanding of agri/eco tourism businesses, how to conduct programs to help those who wish to establish a business, and the kinds of linkages needed to make tourism successful. Four workshops have been conducted as a result of this tour and associated research, enterprises are now in the process of being developed from these and other workshops around the state. One CRD/Ag Agent has been instrumental in the formation of the NC Chapter of the Trail of Tears National Historic Trail in NC. CES presently assists with logistics for the association and educating the general public about the culture/heritage trail of the Cherokee Nation within the surrounding counties.

Community Development

Community development efforts cover a broad area from assisting with Networking with Family CHAMPIONS (Collaborating to Help and Assist More People In Obtaining Necessary Services), Smart Start, Dream Center, and Habitat for Humanity has provided an opportunity for Extension to provide educational opportunities to involve/engage citizens in the utilization of the community services available to them. As well as, get them involved in community development. In one county efforts with Habitat with Humanity resulted in homes being built and families placed. In another strategic planning has helped the a community revitalization committee to gain a better

understanding of the process and their responsibility as a committee. They are further interested in utilizing the expertise of the School of Design, NCSU, for a downtown revitalization project. Assistance also has been provided in the development of the Clay County Communities Revitalization Association (CCCRA), which is made up of community and county leaders, business owners, and the general public. Working with the WNC Development Association and Handmade in America, the Revitalization Committees have recognized the general needs of the town and surrounding communities, and is currently in the process of developing a strategy to meet those needs. Local officials and citizens attended the Technology Expo Co-sponsored by Cooperative Extension and were introduced to the GIS being developed at NCSU. Citizens were impressed with the available resource and members of the local planning board and County and Town Planners indicated that this would be a resource that would be useful in planning and economic development. Communities and individuals have also benefitted from efforts that have created new enterprises, for example a new 2 acre pick-your-own strawberry enterprise was begun following a special educational meeting held in late summer 1998. Three stands have opened or reopened as a result of enterprise development efforts.

Hispanic Audiences

The increasing number of Hispanic/Latino residents has created new opportunities. This population is becoming resident rather than seasonal, and are in need of assistance in learning about and taking advantage of services, educational programs, and other opportunities which are available and to which they are entitled. At least two counties have made it a major priority to provide educational programs, referrals and services that include such aspects as: translating the Community Services Directory into Spanish; English as a second language; educational programs in such things as Pesticide Safety Education; and programs for the women such as basketmaking with hopes of starting a cottage industry.

Leadership Development

Leadership development continues to be a hallmark program for Cooperative Extension. This is exhibited by the continuing success of Community Voices programs that have resulted in positive changes in communities as well as the number of participants who have been elected to leadership positions at the local level. Other leadership efforts have also produced benefits by giving citizens the opportunity and tools to affect change. Examples include the construction of a new town park and the ability to acquire significant anonymous financial donations to accomplish this project.

In another county, the county courthouse restoration video which documents the significance of the 140 year old courthouse was continued with coordination from the local Extension center. Another example is that a follow-up to the 1998 NCSU School of Design study of the Town of Columbus a nine member citizen committee reviewed student recommendations. Extension serves in an ex-officio role to the citizen committee and assisted them with writing a grant proposal for \$200,000 of the North

Carolina DOT Enhancement Funds. Several communities in Robeson County are part of the Enterprise Community. From previous training in Community Voices some of the citizens in these communities are attempting to improve civic, economic and environmental concerns by developing on-going projects and increasing community awareness. In three communities the have implemented significant beautification projects and have become actively involved in economic recruitment. Although no major industry has located within these communities, many local businesses have increased their employee base providing additional employment opportunity for local citizens.

VIII. CEMP Members

Sue Counts	Mitch Renkow
Steve Lilley	John Richardson
Mike Walden	Ellen Smoak
Chuck Moore	Marilyn Cole
John O'Sullivan	Glenn Woolard

CEMP # 7 - CROP PRODUCTION AND MARKETING SYSTEMS

Program Focus: The focus of the Crop Production and Marketing Systems CEMP is to develop and deliver crops and marketing systems educational programs that improve the profits of North Carolina's agricultural industry and maintain environmentally safe farms and communities.

Abstract: NCCE staff have conducted programs to provide unbiased information to producers in 77 counties across NC. The growers and the public have learned about market and crop alternatives, more sustainable production practices, improved IPM practices that have reduced pesticide use, gained awareness of environmental concerns and use of biotech products, and gained an appreciation and used global markets for increased profits. These programs made 92,969 audience contacts, which were valued at \$38.8 million to the audience and an additional \$33.8 million to society and resulted in saving or increased profits of \$52 million at a cost of \$1.95 million. A total of 2169 volunteers gave 16,667 hours worth \$ 166,670. These programs resulted in improved technology, from baling tobacco, to internet diagnosis of pests, to English and Spanish pesticide education, more IPM use, ag consultants received continuing education, and more biotech used. Resources were saved, the environment benefitted, disaster affects relieved, and pesticide use reduced because of this program area.

Number of units reporting

A total of 77 counties reported accomplishments under one or more of the seven objectives: 39 counties reported progress under objective 1, 30 for objective 2, 57 for objective 3, 30 for objective 4, 29 for objective 5, 16 for objective 6, 23 for objective 7.

Statewide measures of progress totals

Objective 1: 'Tobacco and peanut farmers evaluate alternatives.'

Measures of Progress:	Utilizing/adopting	Acres
1. adoption of new market options	1850	
2. adoption of new practices	3921	121381
3. increased awareness and knowledge of alternatives	1329	120885

Program Cost/Benefit Analysis to Date \$ Value to Targeted Audience: \$ 12870801

Objective 2: 'Part-time and limited resource farmers improve.'

Measures of Progress:	Utilizing/adopting	Acres
1. adoption of best management practices	543	37267.1
2. increased awareness and knowledge of marketing options	832	
3. increased awareness and knowledge of irrigation	686	
4. adoption of use of multiple markets	475	
5. adoption of new crops	292	

6023

Program Cost/Benefit Analysis To Date \$ Value to Targeted Audience: \$ 1530535

Objective 3: Evaluate recommended practices for sustainability.

Measures of Progress: Utilizing/adopting Acres

1. adoption of best management practices 6555
2. increased knowledge of production systems 11594
3. stabilized or increased number of farms/crop acreage 3085 82247
4. adoption of practices that lower production costs 5655 754657

Program Cost/Benefit Analysis To Date \$ Value to Targeted Audience: \$ 8082395

Objective 4: 'New chemicals and practices for the environment and with profitability'.

Measures of Progress: Utilizing/adopting Acres

1. increased awareness and knowledge of IPM practices 5585
2. increased awareness and knowledge of IPM 5961
3. adoption of IMP practices 2347 34106

Program Cost/Benefit Analysis To Date \$ Value to Targeted Audience: \$ 4210600

Objective 5: 'Environmental regulations and constraints adjustment.

Measures of Progress: Utilizing/adopting Acres

1. awareness and knowledge of best management practices 6445
2. adoption of best management practices such as IPM etc. 3123 386607
3. increased awareness and knowledge of farm regulations and environmental constraints 4984

Program Cost/Benefit Analysis To Date Value to Targeted Audience:\$ 4927640

Objective 6: 'Biotech benefits and risk knowledge increased.'

Measures of Progress: Utilizing/adopting Acres

1. increased awareness and knowledge of biotech and applications 3731
2. adoption of biotechnology applications to crop production 2528 245172
3. increased public understanding of safety, benefits of production of genetically engineered crop plants 14454

Program Cost/Benefit Analysis To Date \$ Value to Targeted Audience: \$ 4592325

Objective 7: 'Agricultural industry learn about and adapt to local and global markets.'

Measures of Progress: Utilizing/adopting Acres

1. increased knowledge of impacts of global market trends 5100
2. adoption of practices associated with new products 692
3. adoption of practices that impact marketing successes 1202

Program Cost/Benefit Analysis To Date \$ Value to Targeted Audience: \$ 2810900

6. State wide Impacts totals

Objective 1. 'Tobacco and peanut farmers evaluate alternatives.'

1. profitability increase by adopting new marketing options \$4077540
2. optimizing profitability by adoption of new practices \$7187147

Objective 2. 'Part-time and limited resource farmers improve.'

1. optimize profits through adoption of appropriate new crop production practices, irrigation practices, intensive management systems

\$1141745

2. optimize profits through diversification of crops \$614820
3. continued farm production through adoption of sustainability practices

NUMBER ADOPTING: 293

Objective 3: 'Evaluate recommended practices for sustainability.'

1. Optimize profits \$3438060
2. Dollars saved through improved pest management \$4807227
3. 'Evaluate recommended practices for sustainability.' \$8824098

increase

Objective 4: 'New chemicals and practices for the environment and with profitability'.

1. optimize profits through adoption of IPM practices \$3629065
2. reduction in pesticide use POUNDS OF ACTIVE INGREDIENT: 179559

3. dollars saved through adoption of best crop production practices such as nutrient management, crop rotation, scouting, etc. \$6156355
- saved

Objective 5: 'Environmental regulations and constraints adjustment.'

1. optimize profitability through adoption of best management practices such as IPM strategies, and the proper use of soil, tissue, and waste analyses within environmental and safety regulations. \$4923720
- increase

Objective 6: 'Biotech benefits and risk knowledge increased.'

1. optimize profits through use of practices associated with production of genetically engineered crop plants \$3054835
2. reduced pesticide use through genetic resistance to pests \$1411615
3. non-farm public understands the use, benefits, and risks associated with food, food products, and fiber crops generated from genetic engineering.

NUMBER DEMONSTRATING KNOWLEDGE AND UNDERSTANDING: 31482

Objective 7: 'Agricultural industry learns of and adapt to local and global markets.'

1. optimize profitability through adoption of local and global marketing strategies \$1538025
2. optimize profits through adoption of and marketing of new product \$1176800 and
3. optimize profits through adoption of appropriate new crop production practices, irrigation practices, intensive management systems \$1141745

2. optimize profits through diversification of crops \$614820

3. continued farm production through adoption of sustainability practices

NUMBER ADOPTING: 293

Statewide impact totals

1. optimize profits through adoption of IPM practices \$3629065
2. reduction in pesticide use POUNDS OF ACTIVE INGREDIENT: 179559

3. dollars saved through adoption of best crop production practices such as nutrient management, crop rotation, scouting, etc. \$6156355 saved

1. optimize profits through use of practices associated with production of genetically engineered crop plants \$3054835

2. reduced pesticide use through genetic resistance to pests \$1411615

3. non-farm public understands the use, benefits, and risks associated with food, food products, and fiber crops generated from genetic engineering.

NUMBER DEMONSTRATING KNOWLEDGE AND UNDERSTANDING: 31482

Objective 7: 'Agricultural industry learns of and adapt to local and global markets.'

Volunteers involved and value	No.:	Hours:	Dollar Value at \$ 10/hr:
Objective			

1. 'Tobacco and peanut farmers evaluate alternatives.'	319	2571	\$ 25710
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2. 'Part-time and limited resource farmers improve.'	196	2440	\$ 24400
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3. 'Evaluate recommended practices for sustainability.'	843	5332	\$ 53320
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4. 'New chemicals and practices for the environment and with profitability'.	223	1218	\$ 12180
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5. 'Environmental regulations and constraints adjustment.'	189	1112	\$11120
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6. 'Biotech benefits and risk knowledge increased.'	283	4368	\$ 43680
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7. 'Agricultural industry learns of and adapts to local and global markets.'			
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	116	628	\$ 6280
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Total Volunteers involved and value	2169	16667	\$166670
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Success Stories

Watauga County, Person Reporting: David Tucker

In an effort to improve the management skills of Christmas tree and ornamental growers, Cooperative Extension conducted a Greenwise Management Program for Watauga County and the surrounding area. Greenwise focused on problem-solving and provided a process that allowed participants to work through barriers that are inherent in the farming business. At the end of the Greenwise Program; most of the participants had created a mission statement which according to Forbes Magazine is essential in the success of a business. Two new Christmas tree growers from Watauga County, stated that the Greenwise program was by far the best management oriented workshop that they had ever been involved in. They also stated that the cost of the program was extremely cheap, at \$90 per person, since their daughter had just recently attended a similar workshop involving the same principles for around \$1,700.

Person County, Person Reporting: Joey Knight, III

The NCCE conducted the 7th Piedmont North Carolina Area Hay Expo & Forage Management Field Day on June 1, 1999 with approximately 350 people in attendance from Virginia and North Carolina. Over 2 million dollars of hay harvesting equipment was demonstrated from 25 various dealers from both states and 350 people learned about forage management and new technologies in hay harvesting. According to dealer estimates, over \$500,000 in sales resulted from this particular field day. Fifty percent of the livestock producers attending adopted at least one of the forage management practices demonstrated that day.

Duplin and Wayne Counties, Person Reporting: Bryant M. Spivey

Baling flue-cured tobacco on the farm became a reality in 1997 with the Cooperative Baling Research Project. Leadership and direction for this project was provided by the North Carolina Cooperative Extension Service at both the state and county level. Because of this project, 4 tobacco producers baled 180 bales of flue-cured tobacco through cooperation with the Duplin County Extension Center in 1997. In 1998 Duplin County tobacco producers baled over 750 bales of tobacco. Based on current market trends it is estimated that as much as 50% of Duplin County tobacco will be packaged in bales in 1999. The greatest impact of the adoption of baled tobacco is product quality improvement and the maintenance of current market share for North Carolina tobacco producers. Other benefits include lower transportation and storage costs, improved record keeping, less weight loss, and improved product integrity.

Wayne County, Person Reporting: Bryan Page

Extension tobacco agents from Wayne and Duplin held a joint two county tobacco production meeting with 96 producers in attendance. Tobacco baling, a new way to market flue-cured tobacco was one of the topics of this production meeting. This concept increases efficiency and competitiveness of N.C. tobacco. Thus than .01 percent of the crop was baled in 1998 in Wayne County, but baling is rapidly being adopted by farmers for the 1999 growing season. It is estimated that 35-40 percent of the tobacco crop will be baled in 1999 and getting as much as a \$.05/pound premium for baled tobacco would increase income by over \$300,000 in Wayne in 1999.

Craven, Person Reporting: Billy Dunham

Two hurricanes and 25 inches of water caused major flooding of sections of Craven county. The livestock industry was damaged very much with some units being flooded. Extension helped farmers get many animals to salty and also helped to contain dead animals so that they did not reach public waters. Some 5,000 animals were either cremated or buried. Also, several farmers lost their hay. Some 500 bales of hay was delivered to farmers from areas that were not flooded. This effort was lead by the Extension office and as a result all farmers will be able to carry their animals through the winter.

Forsyth, Davie and Yadkin Counties, Person Reporting: Mark Tucker

The Certified Crop Advisor (CCA) Program was designed to certify agribusiness professionals as possessing a certain level of crop expertise, while providing a means of continually updating this knowledge. CCA's in the Piedmont and Western regions of NC were having difficulty obtaining the updated training, especially as it related to their region of the state. The CES centers in Davie, Yadkin and Forsyth County jointly established the Western Piedmont Certified Crop Advisor Training. The three day event provided 20 hours of advanced training (5 hours per category) in the areas of soil and water, nutrient management, crop production, and pest management. Evaluations indicated that 100 percent of participants (30 persons in 1998, 35 persons in 1999) increased their CCA competencies by attending the training. The training has also established a great working relationship between the Industry CCA's and the local Extension Centers.

Surry County, Person Reporting: Joanna Radford

Low commodity prices promote open-mindedness toward reducing production costs. Many farming operators have cut costs as low as they possibly can. Through educational programs, Extension is aiding farmers with information that will lead them into a future of farming without getting left behind. Baling tobacco is a new technology that has over the past year has become a necessity if producers are wanting to advance. Growers benefit from baling tobacco in numerous ways: labor costs to package tobacco is decreased, tobacco transport to market becomes more efficient, tobacco storage is more efficient and the quality of cured tobacco gains more attention. Baled tobacco saves approximately 4 cents per pound. This year in Surry approximately 60% of the tobacco was baled leading to a \$252,640 savings.

Lenoir County, Person Reporting: Wilfred R. Jester

Extension assisted in the organization of 3 roadside stands and one community market that provided marketing outlets for 11 growers. Over \$250,000 worth of sales were generated. A roadside marketing packet of educational information was developed and distributed to over 22 people who were interested in developing a direct marketing situation. In all cases the persons who developed these successful roadside stands got many of their ideas from this assembled resource. The community market at Seven Springs operated on Saturday mornings all spring and summer until it was forced to close by the hurricanes. Six to eight farmers and citizens sold baked goods, flowers and produce at the market. They plan continuing their market next season.

Overall narrative of program progress:

The focus of the Crop Production and Marketing Systems CEMP is to develop and deliver programs that improve the profits 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.

A total of 77 counties reported accomplishments under one or more of the seven objectives; 39 counties reported progress under objective 1, 30 for objective 2, 57 for

objective 3, 30 for objective 4, 29 for objective 5, 16 for objective 6, and 23 for objective 7.

The NCCE campus and county faculty offered unbiased, research-based information to North Carolina's full-time farmers, limited resource part-time farmers, non-farm public, and local, regional, and state decision makers. 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 help evaluate new products and innovative production practices. These sites are particularly valuable as growers must comply with new environmental restrictions and changing government policies. Having the test sites localized provides endless teaching opportunities for agents, farmers, and agribusiness.

Information about disease management through the use of resistant varieties, disease forecasting, scouting, and pesticide selection were presented across the state to help producers reduce production costs, reduce the use of pesticides and increase profits.

IPM practices were demonstrated in many counties. A few examples of IPM programs presented by agents and specialists are: tobacco transplant insect management, tobacco blue mold management through timely fungicide application, the use of resistant varieties, disease forecasting for peanuts to reduce unnecessary sprays, scouting for insects in cotton and small grains, use of beneficial insects for pest management are just a few. IPM programs were also presented for forestry, forage, ornamental, fruit, and vegetable crops. As part of our continuing development of IPM programs. By using digital cameras and an internet microscopy for remote diagnosis, two counties provided pest diagnosis and proper treatment recommendation within hours instead of days as in the past. Thus resulting in more effective, timely treatment. Diagnoses have included watermelon, corn, cotton, peanuts, cantaloupe, beans, strawberries, and many other commercial crops. Across the state, NCCE 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 are facing an uncertain future. NCCE 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. Educational programs on baling tobacco were the subject of many programs. Baling can reduce handling and transportation costs, increasing profits by five cents per pound.

Approximately 1850 tobacco and peanut growers adopted new market options, with

a potential increase in income of over \$3.8 million. Over 3921 adopted new production practices, affecting 121,381 acres for possible increase in profits of \$9 million.

Over 543 part time, limited resource farmers were assisted in evaluating BMPs for their farm enterprise, 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.

NCCE programs continue to promote sustainable farming systems through continue evaluation of recommended or conventional practices. In 1999, 6,555 growers adopted BMPs and 11,594 increased their awareness of the importance of production systems. Over 5,655 growers adopted practices that lower 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, 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. Weed management through the use of herbicide tolerant varieties of soybean, cotton, corn and sweet corn continue to be addressed at many county meetings across the state. Production meetings, field days, and localized on-farm tests have helped growers compare traditional and genetically engineered crops to determine which, if any fit into their farming systems. Over 2528 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. NCCE educational programs have increased the public awareness of biotechnology, reaching over 40,000 individuals.

Being knowledgeable about markets and developing global marketing strategies that maximize profits were the subject of many NCCE programs. In 1999, 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 1202 individuals adopted strategies that impacted their marketing success, increasing profits by \$1.2 million.

Co-chairs D. Sanders, and W. Dunham & members, B. Brown, R. Cobb, S. Hodges, M. Linker, C. McKinley, L. Rogers, M. Shaw, D. Smith, J. Spears, S. Southern

CEMP # 8 - FAMILY AND CONSUMER ECONOMICS

PROGRAM DESCRIPTION:

CEMP 8 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. To help people extend and increase income, FCE Agents provide resource management training for families and family business, and organize experienced volunteers to deliver skill training to youth and families.

ABSTRACT:

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.

NUMBER OF UNITS REPORTING:

Total Counties Reporting Accomplishments: 60

Objective 1: 29

Objective 2: 25

Objective 3: 19

Objective 4: 29

Objective 5: 16

MEASURES OF PROGRESS AND IMPACT INDICATORS TOTALS

Objective 1:

2,879 in 29 counties reported increased awareness and knowledge about money management and decision-making processes, 1,298 wrote personal goals and 565 attained their personal goals. Debt reduced — \$49,884, dollars saved — \$67,585.

Objective 2:

8,009 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.

Objective 3:

2,989 in 19 counties reported 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.

Objective 4:

13,776 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 decisions. Costs avoided through selection and care of consumer goods — \$156,313. Financial status of individuals and families improved by \$240,341.

Objective 5:

2,456 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 resource. Dollars saved through practices to extend income — \$34,570. Income increased through employment — \$120,000. Income increased through self-employment — \$92,740.

VOLUNTEERS INVOLVED:

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

OVERVIEW OF 1999 PROGRAM ACCOMPLISHMENTS:

Objective 1 and 2: Basic Money Management for Limited Resource Audiences/Financial Planning for the Life Cycle

Limited resource families continue to develop skills and adopt behaviors which allow them to reach their financial goals, including debt reduction and increased savings. 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 (for victims of hurricane/flooding) and Habitat for Humanity. Counties have reported work with IDA projects and continue to use the Money In/Money Out curriculum successfully. Additional Marines were reached in ongoing Consumer Financial Specialists training. Participants in the Triad Money Management Center program reported adoption of practices that lead to asset development and improved financial status. News articles and newsletters continue to be effective ways to reach people who can't attend meetings.

Objective 3: Affordable Housing

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

Objective 4: Consumer Decision Making

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 SHIP and the Attorney General's Office continued in most counties. Wilkes FCEA shared curriculum with professionals in DSS, family counseling and community development to cope with the lack of a credit counseling service, and these professionals have requested additional financial management training. Cleveland FCEA addressed cultural differences in financial management practices among Asian families.

Objective 5: Extending and Increasing Income

Sixteen counties conducted educational efforts to help families extend income. Individuals learned to extend income and/or increase income by developing skills in home improvement and furnishings, home decor, computers, sewing and quilting, basket making and Native American and Mountain Crafts. Three counties conducted educational programs on the new clothing care labels. Counties linked with local producers, Extension Homemakers and other local small and home businesses to extend or increase family income.

SUCCESS STORIES:

Guilford County

Many limited-resource families in Guilford County are in need of sound consumer information and advice to effectively manage their dwindling resources. To address this need, Cooperative Extension in cooperation with Greensboro Urban Ministry Partnership Village Project and Habitat for Humanity sponsored house cleaning workshops for 72 participants focusing on house cleaning made easy. The participants gained knowledge, skills and became aware of ways of keeping their house clean without it being costly to their budget. They learned to organize and prioritize work to get their housekeeping done, how to mix household ingredients to create a homemade window cleaner to help cut costs. As a result, 62 participants learned greater skills and adopted practices to make better use of available resources and improve their home management skills. These participants indicate they saved \$201.00 from learning to use inexpensive cleaning supplies. They passed their housing inspections after attending house cleaning workshops.

Anson County

Two programs of "Money In / Money Out" were developed for both the local Community College and high school. The four sessions included information on: individual's value of money, using credit, methods of saving money, budgeting, and setting monetary goals. 100 percent increased their consumer decision-making skills. 85 percent increased their awareness of money resources. 95 percent felt that they had increased their ability to work with their money resources wisely. 80 percent agreed that they had increased their knowledge in saving money and reducing their consumer debt. Each participant at the community college agreed that they could start saving at least \$20 per month, which came to a class total of saving \$2,800 this year.

Gaston County

In spite of two incomes at professional levels, a young couple was forced into bankruptcy by a spouse's unwise use of credit and lack of attention to family financial status. Both spouses attended all six sessions of a financial workshop "Mixing Money and Marriage". The spouse forced to cope with financial surprises and stress in the past reported the changes in the improvident spouse's financial attitudes and behavior. They filled out the financial worksheets and did the calculations to manage their current income and provide for the future together. The formerly oblivious spouse did research on the employer's 401(k) plan and made personal decisions on investment options. The health plan booklet was also studied seriously by both the spouses. "I have a financial partner now" the pleased spouse reported back after the workshop. They have a firm plan for the future and just purchased a new home.

Johnston County

Assisting 226 families and consumers in making right decisions so that their clothing, food, and shelter choices are consistent with their family resources is a goal of Johnston County Extension Service. Six clothing construction workshops, news articles, publications and in-home consultations taught 144 families and consumers how to extend their family clothing budget by 7 percent by making their own clothes and adding designer fashion tips to these garments. 50 consumers increased their knowledge and adopted home furnishings techniques to further extend their income by doing their own home improvements. As a result these consumers were able to save \$4,000 by making garments and doing their own home improvements.

Hertford County

Eleven families have applied for the IDA Program with 8 qualified to become homeowners, get education or open a small business. Extension Service will teach 10 classes on money management and budgeting. We will work cooperatively with CADA, Centura Bank, and county agencies. Their initial investment will be \$50 and \$35 each additional month to reach their goal of \$1,000 to be matched with \$2,000 from state and federal funds. Welfare, to work participants are also interested in budgeting and money management. Out of 9 participants in the class, 4 would like to enroll in the IDA Program once they get a job. They would like to move from the mobile home project to have their own home.

Stanly County

FCE agent works with families that have applied for housing through Habitat for Humanity. Families must complete 3 financial management sessions before being considered for Habitat Housing. Recently, one single-parent family completed four sessions and reduced her monthly spending by an average of \$298.

Rowan County

Rowan County's Cooperative Extension's "Community Affordable Homeownership" programs targeted potential first time home buyers who are low-wage or moderate income individuals or families. Networking with local agencies, municipal offices, home builders, communities and lenders has proved to be successful. They have

helped to advertise and co-sponsor the series of classes. Sponsorship in 1999 was \$2200 for posters, media advertising and supplies. Data collected from 78 of 126 participants rated the classes as good to excellent: practical value — 92%; new knowledge gained — 89%; improved skills — 83%; and 78% of individuals with credit problems are working to pay debts; and 7 have purchased new or existing houses, 4 have remodeled, and 24 are saving for down payments.

CEMP 8 TEAM:

Sarah Kirby, Co-Chair, NCSU
Nita Royal, Co-Chair, Forsyth County
Jan Lloyd, Area Specialist, NCSU
Linda Aycock, Nash County
Deborah Taylor, Orange County
Ellen Miller, NCSU
Joanne Cope, Macon County
Bob Usry, NCSU
Michael Walden, NCSU
Claudette Smith, NCA&T
Glennie Beasley, Chatham County
Jim Daughtry, Jones County

CEMP # 9 - FAMILY AND PARENT EDUCATION

Brief description of CEMP Program focus: The Family & 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. Appropriate actions are being taken to provide quality information on how to strengthen family relationships through improved parenting skills, financial management, problem-solving skills, empowerment, conflict resolution, effective communication, and stress management. In addition, Extension personnel are equipped to make appropriate referrals for family services, support services, and self-help support groups.

Abstract/Overview of 1998 CEMP 09 Program Accomplishments:

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. The many educational efforts initiated and facilitated by County Family and Consumer Educators were immeasurably enhanced by hundreds of volunteers, collaborators, county government representatives, funding partners, state faculty members, and many members of our support staffs. Literally none of our successes are accomplished without a coordinated team effort.

Program content fit within the confines of CEMP 09's four objectives. Individual educational efforts focused heavily on Parent Education, Child Care, and Child Development. In addition, different programs emphasized topics related to overall

human development such as stress management, conflict resolution, personal improvement skills, decision-making, personal responsibility, communication skills, and other life skills. Program methodologies were often highly creative and non-traditional, involving diverse audiences including limited resource families, incarcerated parents, as well as cross-cultural groups. Many venues were utilized in disseminating our research-based information related to family and parent education.

The results of the CEMP 09 educational programs conducted throughout the state are quite impressive. Utilizing various evaluation techniques including observational, self-reporting questionnaires, pre-post tests, telephone surveys, one-on-one conversation, purposive sampling, and in some cases extrapolation, the awareness and knowledge levels related to one or more content concepts of 58,281 participants were increased. In addition to learning concepts, 17,902 persons reported adopting practices as a result of Extension programs that would improve their personal or family context, and 6,589 reported learning new skills that would enhance their ability to deal with the challenges of life. According to 6,361 learners, stronger family relationships were perceived as a result of participating in CEMP 09 educational opportunities. An overall improvement in the quality of life was reported by 15,873 program participants.

Objective 1: *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.*

Counties(units) reporting accomplishments: (50 Counties reporting) Alexander, Alleghany Anson, Avery, Brunswick, Buncombe, Chatham, Chowan, Cleveland, Columbus, Craven, Currituck, Dare, Davidson, Duplin, Durham, Franklin, Graham, Greene, Harnett, Haywood, Henderson, Iredell, Jackson, Johnston, Jones, Lenoir, Lincoln, Madison, McDowell, Mitchell, Moore, Northampton, Orange, Pamlico, Pasquotank, Pender, Perquimans, Person, Randolph, Robeson, Rockingham, Rowan, Rutherford, Sampson, Stanly, Union, Warren, Wayne, Wilson.

Respective MOPs description and numbers: 14,462 individuals increased awareness and knowledge of developmental stages, basic needs, and appropriate behavior of children. 10,809 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. There was 8,528 adoptions of techniques to control stress, time, and energy.

Respective Impacts description and numbers: 4,361 families demonstrated improved family relationships through the resolution of financial conflicts. 7,382 families demonstrated improved responsibility of parents and children. 13,168 families improved quality of family life by adoption of effective parenting through appropriate discipline techniques and critical nurturing practices.

Volunteers - Number: 855

Hours: 5,184

Dollar Value at \$ 10/hr: \$51,840.

A concise narrative to capture all accomplishments for Objective 1: 50 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. These programs were conducted in a variety of ways with diverse target audiences, and frequently in collaboration with other government and community agencies. Listed below is a sampling of programming efforts throughout the state:

PARENT EDUCATION RESOURCE NOTEBOOK: A 15-unit curriculum resource notebook on Parent Education was developed by the CEMP planning team and inserviced at the Extension Annual Conference and distributed in hard copy. During 1999 the notebook has been converted to an on-line resource document in which county agents can download and print only the pieces they need at any given time. The notebook will be more easily edited and expanded in its electronic form. The resource has received rave reviews from county personnel.

DUPLIN COUNTY – A thirty-five year old mother of three children, said "without the parenting program in the county I would have not been able to afford private consultation fees to retain custody of my three children". As a result of the parenting program offered through Cooperative Extension to the Duplin County Juvenile Crime Prevention Counsel, two youth enrolled into the GED Program at our community college (James Sprunt). We helped one youth get into Job Corp. We have also continued to help flood victims gain resources. How to Help Your Child Cope After The Storm news release was circulated in local newspapers and aired on the local radio stations reaching approximately 15,000 Duplin residents.

MOORE COUNTY – A social worker from the Moore County Department of Social Services approached the Cooperative Extension Service about providing foster parents educational training because no one else was providing the much needed training. If parents did not receive training they would be in jeopardy of losing their certification. Cooperative Extension developed a calendar of training and provided 15 foster parents 13 hours each of training. Because of training approximately 20 foster children were able to continue in their foster homes.

PENDER COUNTY – As a result of damage from Hurricane Floyd approximately 700 families had severe flooding problems to homes. Agent met with & counseled 2000 people. In addition, newspaper articles reached about 40,000 people, 3000 school children received educational material to take home to parents & 500 people received disaster relief information through newsletters. Families were provided information to assist them in making better decisions to survive and to protect their families from fraud while they were trying to put their lives back together, and to reduce stress in all areas of family relations.

Objective 2: *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.*

Counties(units) reporting accomplishments: (11 Counties Reporting) Alamance, Brunswick, Caswell, Catawba, Columbus, Forsyth, Guilford, Lenoir, McDowell, Onslow, Robeson.

Respective MOPs description and numbers: 763 limited resource parents demonstrated proper application of techniques learned to resolve financial conflicts. 747 limited resource parents increased knowledge and awareness of strategies to resolve family financial conflicts. 1,365 limited resource parents increased knowledge and awareness of child growth and development. 653 limited resource parents adopted appropriate discipline techniques and critical nurturing practices.

Respective Impacts description and numbers: 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 through appropriate discipline techniques and critical nurturing practices.

Volunteers – Number: 112
Hours: 1,091
Dollar Value at \$ 10/hr: \$10,910.

A concise narrative to capture all accomplishments for Objective 2: 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. Examples of programming under objective 2 include:

McDOWELL COUNTY – Individual consultation with 4 families have resulted in 2 additional families setting up spending plans. One family is using a debt elimination table to pay off debts. Another family has changed spending habits completely and has regular appointments with the local Consumer Credit Counseling Service. More classes are planned with the Job Links program in 2000.

ONSWLOW COUNTY – NCCE - Onslow County Center continues to work with low-income parents and grandparents in providing car seats for them. The car seats are received through the NC Dept. of Insurance with the Fire and Rescue Division. Thus far this year, we have received 65 car seats and 20 booster seats to distribute to local low-income families. This is \$4300.00 being brought into the county through car-seats. This program has become very successful. This year we participated in the Bounty program which tries to get individuals to turn in old or non-working car seats instead of selling them at yard sales. Last year only 2 car seats were turned in and this

year 21 have been turned it. To us, that is a significant increase. We know we should easily be getting more, but it is a great start.

Objective 3: *Families and individuals will improve skills in critical thinking, family conflict resolution, and effective decision-making.*

Counties(units) reporting accomplishments: (16 Counties Reporting) Alexander, Alleghany, Anson, Buncombe, Catawba, Columbus, Davidson, Forsyth, Harnett, Johnston, Lenoir, Mitchell, Stokes, Union, Wilson, Yancey.

Respective MOPs description and numbers: 7,486 people increased awareness and knowledge of skills in critical thinking, communicating, leadership, managing finances and managing stress. 2,262 persons adopted skills in critical thinking, communicating, leadership, managing finances, and managing stress.

Respective Impacts description and numbers: 810 program participants reported improved self-esteem of family members by adopting strategies of affirmation, positive reinforcement, and expression of affection. 1,313 persons said their quality of family life improved through the adoption of skills such as improved communication, conflict management, and effective decision making. And 1,300 people improved their interpersonal relationships through the adoption of skills in critical thinking, communicating, leadership, managing finances, and managing stress.

Volunteers – Number: 157

Hours: 402

Dollar Value at \$ 10/hr: \$4,020.

A concise narrative to capture all accomplishments for Objective 3: 16 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. Examples of programming under objective 3 include:

ALEXANDER COUNTY – Learning to handle conflict and express angry feelings is a problem for preschoolers that has been identified by local child care providers. Cooperative Extension in Alexander County conducted a staff and parent education training, called "Getting Along" within in one local child care center. The parent education component was a series of take-home packets on three different topics. Each take-home packet included a child's book, a parent/child activity and an educational bulletin. Seventeen parents reported learning and using strategies to help their children manage anger and resolve conflict. Staff members caring for the children reported observing that children were beginning to handle their anger more effectively and had increased their ability to use words rather than physical aggression to express their anger.

BUNCOMBE COUNTY – Nearly 1200 Buncombe County residents increased

knowledge of the causes and consequences of distress in their lives and developed techniques for reducing the impact of stressors as the result of participating in one of three programs on stress management and/or one of three health fairs. School guidance counselors and parents in another 4,000 households learned ways to help young adolescents deal with stress and how to recognize the warning signs of potential violence in children through a parenting newsletter which was issued in response to recent school shootings. An exhibit illustrating the warning signs of potential violence in children at different ages is being developed for use with various groups.

DAVIDSON COUNTY – A new audience was reached through this endeavor in the area of stress reduction and management. The entire audience of 18 were of the Deaf Community. Stress in their personal and family life play a significant role in their lives. All 18 have adopted a plan to manage their stress load, through communication skills, critical thinking techniques, conflict management and stress reduction activities. It is hard to put a monetary value on this project however all said they would have paid \$50 to attend a seminar of this sort. Fifty percent of this audience has mainstreamed into other Extension activities. It has created problems with interpreters, however the clientele are pleased with the programs and are learning many new things while mainstreaming into society.

Objective 4: *Families will become aware of support services and will use them effectively.*

Counties(units) reporting accomplishments: (9 Counties Reporting) Columbus, Edgecombe, Harnett, Iredell, Jones, Lenoir, Onslow, Pitt, Stanly.

Respective MOPs description and numbers: 3,152 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. And 591 people adopted skills such as listening, managing finances, and managing stress.

Respective Impacts description and numbers: 655 people said they improved their quality of family life through utilization of community services. 215 reported improved self-esteem by implementing suggested strategies for strengthening families. In addition, 597 persons reported improved family relationships through the adoption of skills such as listening, managing finances, and managing stress.

Volunteers – Number: 81
Hours: 470
Dollar Value at \$ 10/hr: \$4,700.

A concise narrative to capture all accomplishments for Objective 4: Extension educators often serve as a referral system to help families access specific kinds of professional help. Nine of our CEMP counties chose this objective as a focus of

emphasis, and conducted programs in key issues facing our young people; poor achievement among youth; collaboration among agencies; health services; care-giver services available; survival skills for women; community service exhibitions; advocacy for children and families; healthcare insurance; and others. Examples of Extension's efforts include the following:

EDGEcombe COUNTY – 191 citizens increased their knowledge and access to community services following Hurricane Floyd through handouts and interpretation provided by the FCS agent and volunteers. Services that were accessed included WIC funds, immunizations, maternity care, distribution center goods, holiday gifts and relief funds.

162 Hispanic citizens had the increased ability to communicate with the Department of Social Services to receive hurricane relief funds through Extension efforts. Volunteers translated pertinent information, delivered and communicated that information and assisted Hispanics at the application sites so that they would receive the appropriate funds.

HARNETT COUNTY – Efforts to educate families concerning available community services to assist with children and family needs have included multi agency exhibits and distribution of educational brochures at our *Girl's Are Great* Program, Children's Health Fair and other educational functions, programs for Harnett County's Delta Kappa Gamma Educational Sorority, report to our County Commissioners and Community Leaders as well as the development and distribution of a brochure by Extension's Child Care Resource and Referral Staff on "Parenting Again", a list of resources for older adults parenting grandchildren or other young family members.

JONES COUNTY – The Jones County Cooperative Extension initiated the formation of the building Bridges Committee to address the needs of Latinos in our area. The committee consisted of five county agencies, several Hispanic ministries, Extension and Community Association clubs, churches, and other citizens. As a result, information of available services was gathered, an assessment of lacking services was determined and an area Health Fair and Festival was conducted. The festival had 120 attendees and participants were made aware of services available, received free health care such as eye screenings, tetanus shots, sugar and blood pressure checks, free clothing, food and information on health topics like child care, spouse and child abuse, pesticide safety, employment opportunities and nutrition. High school students were involved in preparations and the event.

PITT COUNTY – "Making Pitt's Babies fit" is a maternity fair held annually to make parents aware of the child care services Pitt County has to offer new or expecting parents. This year's fair offered exhibits and information from many local agencies and businesses. Parents were required to view all exhibits and were encouraged to pick up educational handouts and materials on child safety, prenatal care, child health issues and local services offered. Approximately 200 expecting or new parents attended the fair.

CEMP 09 contact persons (co-chairs): Georgia Kight and Wayne Matthews

CEMP 09 Team Members:

Nancy Abasiokong	Marilyn Gore	Pam Outen
Jean Baldwin	Melissa Hight	Jackie Roseboro
Sandra Brown	Carmen Long	Claudette Smith
Joyce Boatwright	Margo Mosley	Verlene D Stephenson
Lucille Carter		Karen Wicker
Karen DeBord		
Reba Green-Holley		

CEMP # 10 - FOOD AND FOREST PRODUCTS MANUFACTURING

Food Science The food portion of this CEMP deals with two major objectives:

- 1) Assistance to entrepreneurs and startup businesses in the food industry
- 2) Assisting the North Carolina food processing industry in the technology of producing a safe, wholesome and economical product.

Wood and Paper Science

The North Carolina Cooperative Extension Service, Department of Wood and Paper Science and the Martin County Center work to increase the competitiveness and profitability of North Carolina's wood products industry, improve markets, and increase consumer understanding of wood products and their proper use. The continued long-term expansion of the State's primary and secondary wood products industries not only depends on the national and international economy, but on the individual firm's abilities to compete by obtaining and efficiently using raw materials and utilizing existing and new technology. Wood Products Extension and the Martin County Center concentrate their efforts on providing educational opportunities for managers and key personnel of primary and secondary wood products firms and the consumers of wood products. These opportunities allow clientele to develop their knowledge and skills to further their effectiveness in the assembly, processing, distribution, and use of wood products. The wood products industry modernization will increase their competitiveness in our growing international economy.

UNITS REPORTING ACCOMPLISHMENTS

Department of Food Science Extension Specialists

Drs. Pat Curtis, David Greene, Duane Larick, John Rushing, Lynn Turner, Kevin Keener, Donn Ward. Barry Nash of the Seafood Lab and Mrs. Lisa Gordon, Extension Secretary

Department of Wood and Paper Science Extension Specialists

Joe Denig, Larry Jahn, Phil Mitchell

Martin County Extension Center
Jim Kea

STATEWIDE MEASURES OF PROGRESS TOTALS

Objective 1: Food processors will adopt new technology, hire and train qualified personnel, and develop in-house quality systems to ensure regulatory compliance along with sustained growth and profitability.

Increased participation in training

Number participating: 1000

Number increasing understanding: 1000

Objective 2: (A) Forest products manufacturers will increase their competitiveness, productivity, profitability, and utilization of innovative technology, and (B) North Carolina citizens will increase their knowledge of wood products, their proper application, and maintenance.

Adoption of new manufacturing techniques

Number of firms adopting: 136

Consumer adoption of practices related to selection, use, and maintenance of wood products

Number adopting: 260

Increased knowledge of economic importance of the wood products industry

Number increasing knowledge: 2,650

Increased consumer understanding of wood products and their proper use

Number increasing understanding: 2,738

Objective 3: New and potential entrepreneurs especially in the food and forest products manufacturing areas will benefit from programs in business setup, management, quality, technology, and regulations by entry into the marketplace showing sustained growth and profitability.

Requests for assistance from small business and entrepreneurs

Number: 220

Number of new companies in food and forest products manufacturing

Number: 40 in food (no data on survivability yet)

STATEWIDE IMPACT TOTALS

Objective 1: Food processors will adopt new technology, hire and train qualified personnel, and develop in-house quality systems to ensure regulatory compliance along with sustained growth and profitability.

Persons certified to implement HACCP: 1000

Companies represented: 800

Minimum estimated impact to North Carolina Industry \$1,000,000

Objective 2: (A) Forest products manufacturers will increase their competitiveness, productivity, profitability, and utilization of innovative technology, and (B) North Carolina citizens will increase their knowledge of wood products, their proper application, and maintenance.

Dollars saved through improved utilization or productivity

Dollars: \$1,500,000

Increased production of value-added products

Dollars: \$400,000

Dollars saved through improved yield, efficiency, productivity, and marketing

Dollars: \$196,000

Objective 3: New and potential entrepreneurs especially in the food and forest products manufacturing areas will benefit from programs in business setup, management, quality, technology, and regulations by entry into the marketplace showing sustained growth and profitability.

Increase in number of small businesses in food and forestry manufacturing

Number: 40

NARRATIVE PROGRAM PROGRESS AND ACCOMPLISHMENTS

Food Science

Specialists from the Department of Food Science at North Carolina State University worked with the Meat and Poultry Inspection Division of the North Carolina Department of Agriculture to plan and implement a training program for very small meat and poultry plants in North Carolina. The unique approach taken by the interagency group was to offer the three day training course one day a week for three weeks. This approach allowed the very small plants to attend the training sessions without severely impacting the production schedule of their plant during any one week. In addition, the team created a workbook used by the participants. This workbook was unique in that it allowed the participants to take the knowledge they gained from class and apply it to their personal situation. By doing this the participants were able to begin the process of actually developing HACCP plans for their own plants as a "homework" assignment. The "homework" assignment was then used at the beginning of the next session as a feedback tool and review from the previous session.

FSIS is the Agency within the U.S. Department of Agriculture responsible for ensuring the safety, wholesomeness, and accurate labeling of meat, poultry, and egg products. FSIS issued its landmark rule, Pathogen Reduction; Hazard Analysis and Critical Control Point (HACCP) Systems, on July 25, 1996. The rule addresses the serious problem of foodborne illness in the United States associated with meat and poultry products by focusing more attention on the prevention and reduction of microbial

pathogens on raw products that can cause illness.

The Food Safety and Inspection and Inspection Service (FSIS) is entering the third and final phase of implementation of the final rule on Pathogen Reduction; Hazard Analysis and Critical Control Point (HACCP) Systems. On January 25, 2000, all very small plants, defined as having fewer than 10 employees or less than \$2.5 million in sales, must meet all requirements of the Pathogen Reduction; Hazard Analysis and Critical Control Point (HACCP) Systems final rule. As a result of the efforts of team members, 219 processors representing 159 plants in North Carolina and 17 NCDA regulatory personnel have been trained in HACCP. These trained individuals will be able to develop and implement HACCP programs that will enable them to more effectively control the safety of their products and thus remain in business and contribute to the economies of their communities.

Safe Seafood HACCP Training

NC State University Seafood Laboratory personnel have participated in 14 National Seafood HACCP Alliance Education & Training Workshops. Organizing 11 in North Carolina, with 458 individuals certified, 367 in North Carolina. These training sessions allow seafood manufacturers to get the necessary background and Certification to meet current federal regulations.

On the dairy processing side, we have been working to implement a HACCP pilot in 6 dairy plants across the nation. This work is in conjunction with the states represented by the Interstate Milk Shipper's agreement, the FDA and industry Representatives. The group has been recommended for the FDA Group Recognition Award to recognize "crosscutting" teams for achievements that warrant honorary recognition by the Agency. This NCIMS HACCP training effort clearly shows how FDA, state, industry, and academia worked together as a team to provide training to pilot participants as the first step in successfully implementing the HACCP Pilot Program.

Wood and Paper Science

Faculty conducted, organized or participated in 48 workshops, conferences, seminars, short courses, and classes for forest industry and consumer audiences. Sample topics included wood drying, quality control, rough mill processing, marketing, wood preservation, and proper uses of wood products. These efforts reached an estimated 2,509 individuals. Major events are listed below.

Conducted, organized, and taught at the following events:

Hardwood Lumber Grading Short Course, Raleigh

In-House Lumber Manufacturing Seminar, Dudley

In-House High Temperature Drying Seminar, Plymouth

Southeastern Lumber Manufacturers Association Roundtable Group, Florence, SC and Comack, GA

Profiting from Improved Practices in Furniture Manufacturing Workshop, Hickory

Hardwood Plywood Manufacturing: Quality Control for Increased Profits Short Course, Raleigh

In-House Rough Mill Workshop, Mocksville

Southeastern Dry Kiln Club Spring Meeting, Martinsville, VA

Rough Mill Improvement Workshop, Hickory

Basic Dry Kiln Operators Short Course, Clyde

In-House Hardwood Lumber Manufacturing Workshop, Elizabethtown

In-House Lumber Grading Review, Seagrove

CNC Router Technology Workshop, Raleigh

Southeastern Dry Kiln Club Fall Meeting, Franklin

In-House Lumber Drying Workshop, Morganton

In-House Pine Kiln Drying and Maintenance Workshop, Dudley

Forest Products Society's Carolinas-Chesapeake Annual Meeting, Winston-Salem

Wood Treatment Recertification Training, Raleigh

Presentations at the following events:

Parks and Recreation Maintenance School, Wheeling, WV

NC State Parks and Recreation Maintenance Conference, Fort Fisher

Phase II Agent Training on Moisture Control, Raleigh

Wood Technology Clinic and Show, Portland, OR

Forest Products Society Annual Meeting, Boise, ID

Small Scale Forestry in the Urban-Rural Interface Field Day, Pittsboro

Wood Expo 99, Atlanta

Wood for Africa 99 Forestry, Sawmilling & Timber Exhibition, Pietermaritzburg, South Africa

Forsyth County Center Homeowners Group, Winston-Salem

Southern Ideal Home Show, Raleigh

Pesticide Certification School, Raleigh

NCREN Video Teleconference on Marketing Your Timber, Raleigh

Polk County Center Homeowners Group, Columbus

Chilean Forestry and Wood Products Industry Tour Group, Raleigh

Hurricane Floyd Community Meetings on Moisture Control, Goldsboro, Seven Springs, Tarboro

Trade and Investment Opportunities Workshop for American and African Manufacturers and Traders in Wood Products, Raleigh

Louisiana Society of American Foresters Annual Meeting, Hammond, LA

Helping producers and buyers in solving problems or answering their questions associated with the production and use of wood products is also an important activity. Many of these problems and questions require extensive time in gathering the information needed by an agent, industry or final consumer. Faculty handled 158 requests of this type in 1999.

Martin County Center

ProLogger, which focuses on continuing education requirements for North Carolina's loggers, is designed to improve logger safety, environmental concerns, and business

management. Those who complete the required 24 credit hours of training will receive the Professional Logger designation and a diploma. To date, approximately 3,500 industry and agency personnel have taken this course. The Carolina Log'n Demo developed by Extension is now being handled by the North Carolina Forestry Association and the ProLogger Council. The demo has a very strong Extension built foundation which was reflected in the 1999 attendance of approximately 2,200.

SUCCESS STORIES

Food Science

The Food Safety and Inspection and Inspection Service (FSIS) is entering the third and final phase of implementation of the final rule on Pathogen Reduction; Hazard Analysis and Critical Control Point (HACCP) Systems. On January 25, 2000, all very small plants, defined as having fewer than 10 employees or less than \$2.5 million in sales, must meet all requirements of the Pathogen Reduction; Hazard Analysis and Critical Control Point (HACCP) Systems final rule. As a result of the efforts of team members, 219 processors representing 159 plants in North Carolina and 17 NCDA regulatory personnel have been trained in HACCP. These trained individuals will be able to develop and implement HACCP programs that will enable them to more effectively control the safety of their products and thus remain in business and contribute to the economies of their communities.

Safe Seafood HACCP Training

NC State University Seafood Laboratory personnel have participated in 14 National Seafood HACCP Alliance Education & Training Workshops. Organizing 11 in North Carolina, with 458 individuals certified, 367 in North Carolina.

Hampton, VA	January 7-9, 1997	48 AFDO certified
Washington, NC	January 21-23, 1997	56 AFDO certified
Wilmington, NC	February 4-6, 1997	42 AFDO certified
Asheville, NC	February 25-27, 1997	21 AFDO certified
New Bern, NC	July 22-24, 1997	37 AFDO certified
Morehead City, NC	December 9-11, 1997	64 AFDO certified
Greenville, SC	January 27-29, 1998	23 AFDO certified
Manteo, NC	March 3-5, 1998	24 AFDO certified
Bolivia, NC	March 17-19, 1998	45 AFDO certified
Morehead City, NC	May 19-20, 1998(ISSC)	4 AFDO certified
Charleston, SC	October 13-15, 1998	20 AFDO certified
Morehead City, NC	November 4-6, 1998	33 AFDO certified
Washington, NC	May 18, 1999(Encore)	17 AFDO certified
Morehead City, NC	June 1-3, 1999	24 AFDO certified

Wood and Paper Science

There is a great need to increase the competitiveness and profitability of North

Carolina's forest products industry and to increase consumer understanding of forest products and their proper use. To meet this need, extension specialists within the Department of Wood and Paper Science are actively involved in providing educational and technical assistance to North Carolina wood products manufacturers and consumers of wood products. The following examples are indicative of the many impacts accruing as a result of useful educational opportunities being provided in a timely and inclusive manner to industry and consumers of wood products.

A dimension manufacturer implemented yield measurement methods in their rough mill operation. Estimated annual savings were \$160,000.

A sawmill decided against investing in a large capital project due to a negative cash flow for the first five years. Estimated annual savings were \$500,000.

A hardwood lumber manufacturer improved their understanding of the lumber grading rules. Estimated annual savings were \$400,000.

A specialist participated as a speaker at the Parks and Recreation Maintenance Management School. A strategy was adopted to compare the student's perception if the topics held importance to their job (pre-test) against the student's perception if the session was actually beneficial to their job (post-test). This strategy employed the t-test statistical procedure. Among the 14 different topics, nine were statistically significant in the positive direction including the specialist's. On a scale of 1 (strongly disagree) to 5 (strongly agree), this specialist's topics were rated second (4.65) and fourth (4.53). The results of this impact initiative indicate the specialist's topics were hitting the mark.

A "Rough Mill Improvement Workshop" was held in cooperation with the Furniture Technology Center at Catawba Valley Community College in Hickory. Projected attendance was 30 attendees but that goal was surpassed with 50 attendees representing 19 companies. On a 5 point scale (1=not helpful, 5=very helpful), the average overall score was 3.9 with 72% rating the workshop with a score of 4 or 5. Sample comments on the workshop included: excellent workshop with very good take home material; very helpful; excellent overview of subject material; literature good to have to refer back to, very thorough, slides helpful; and attendance was worth time and cost spent.

Martin County Center

The Carolina Log'n Demo has given attendees the opportunity to view state-of-the-art harvesting and transportation equipment. Due to this show, 12 portable scales have been purchased by loggers in the Martin County area. The purchase of the scales has resulted in saving loggers an extra trip per day by correctly loading their trucks to the legal limit. Estimated amount savings for these loggers are \$100,000.

ProLogger, which focuses on continuing education requirements for North Carolina's

loggers, is designed to improve logger safety, environmental concerns, and business management. This program continues to reduce injuries and keep fatalities low. Savings for 1999 due to reduced workers compensation are estimated at \$1,000,000.

Information provided on the care of Floyd flood damaged wood products enabled at least 100 people to either do part of their own repairs or monitor work being done. Estimated savings were \$200,000.

TEAM MEMBERS

Tom Campbell

Larry Jahn, Co-Chair

Jim Kea

John Rushing, Co-Chair, Drs. Pat Curtis, David Greene, Duane Larick,, Lynn Turner, Kevin Keener, Donn Ward. Barry Nash of the Seafood Lab and Mrs. Lisa Gordon, Extension Secretary

CEMP # 11 - FOOD SAFETY AND QUALITY

A very brief Program Description:

The food safety and quality CEMP focuses on increasing knowledge and encouraging the adoption of safe food handling practices of food service workers, consumers, youth and other diverse audiences

An abstract/overview of your entire 1999 CEMP program accomplishments in a Narrative format not to exceed one-half page single spaced. (please write this as if it was a total stand alone document)

County offices throughout North Carolina delivered a variety of food safety programs, (safe food handling, hygiene, food preservation, food service, master food preserver, sanitation, youth cooking classes, etc.) to diverse audiences (children, high school students, adults, senior citizens, Work First clients, child care providers, garden and civic clubs, Extension Homemaker Clubs, Meals on Wheels volunteers, college students, limited resources families, etc.). A growing number of agents are partnering with others (Departments of Aging, schools, Environmental Health, universities, community colleges, etc.) to provide various programs. In addition, state specialists have provided assistance on a wide array of food safety related issues to a variety of audiences. The topics have ranged from food processing to biotechnology. The food processing industries (poultry, meat and eggs; dairy, seafood, fruits and vegetables, etc.) have been inundated with new regulations related to food safety. Specialists in cooperation with various commodity and processing associations have spent a great deal of time trying to assist industry in meeting these new challenges

Number of Units reporting accomplishments:

63 Counties and 3 Departments

Statewide Measures of Progress totals:

Objective 1:

Number of food safety programs held for:

Consumers	1,085
Food Service Workers	231
Food Handlers	284
Food Regulators	15
Others	249

Number of food handlers certification programs held for:

Consumers	115
Food Service Workers	261
Food Handlers	46
Food Regulators	8
Others	21

Number of train the trainer programs held for:

Consumers	175
Food Service Workers	35
Food Handlers	12
Food Regulators	12
Other Professional	28

Number of participants in the train the trainer programs:

Consumer	175
Food Service Workers	476
Food Handlers	445
Food Regulators	20
Other Professional	142

Number of Participants who increased knowledge about safe food handling:

Consumers	15,337
Food Service Workers	2,750
Food Handlers	2,263
Food Regulators	24
Other Professionals	184

Number of participants who successfully completed certification:

Consumers	579
Food Service Workers	1,500
Food Handlers	628
Food Regulators	16
Other Professionals	15

Objective 2:

Number of consumers who increased knowledge about the application of biotechnology on the food supply: 124

Statewide Impacts totals

Objective 1:

Adoption of safe food handling practices by:

Consumers	10,897
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Food Service Workers	15,191
Food Handlers	1,705
Food Regulators	20
Other Professionals	150

Objective 2:

Number of consumers who improved attitude about the safety and acceptability of the use of biotechnology in the food supply: 120

Volunteers involved and value

Objective 1:

Number of Volunteers: 551
 Hours: 3,921
 Dollar Value at \$10/hr: \$39,210

Objective 2:

Number of Volunteers: 2
 Hours: 4
 Dollar Value at \$10/hr: \$40

A few Success Stories that indicate real program impacts

Home Food Preservation Example: Family and Consumer Educators from Cherokee, Jackson, Graham, Clay, Swain and Macon Counties responded to consumer education needs in terms of food preservation and safety. Agents coordinated and implemented a "Food Preservation Made Easy" workshop, which was rotated between the six counties. Topics included: canning high and low acid foods; pickling; soft spreads; freezing; and dehydration. The goal of the workshop was to increase consumer knowledge in terms of preserving foods safely and to promote the use of new preservation methods. Results of pre-and post-tests revealed an overall 25% increase in knowledge. Delayed post tests revealed, as a result of the workshop, 97% of respondents said objectives were met; 33% implemented a new preservation method; 38% either preserved more food, or have intentions to do so. Participants have shared new knowledge with over 95 other people.

Food Service Example: Preventing food poisoning from food borne illness is always a challenge for restaurants. One of the participants in a recent SERVSAFE Class had several years in the food service business and had worked her way up in management. She said she learned a lot from the course and why things have to be done a certain way. She went back and encouraged her manager to have a food safety and sanitation class for the rest of the workers in the restaurant. This safety class taught by the FCS Educator proved to be a plus for the business as well as the individuals as they are striving to use safe food handling and sanitation practices. Several of the young workers said they were glad they saw the video of these practices in other places and it made them understand why they have to follow strict policies and procedures.

Day Camp Experience Example: During the course of a 3 week day camp experience, 209 Hispanic youth received 5-6 hours of food safety instruction and hands-on

experiences. They learned the importance of thoroughly cooking food, hand washing and temperature control. They were able to complete 70-80 percent of the items on a crossword puzzle at the end of the series. According to one teacher, "They would not eat lunch until they had washed their hands. Some said they would not eat their ham sandwiches because the meat was "pink". After some explaining on my part, they ate the meat."

An Example of a former program participant opening new doors: In Orange County, a former participant in the ServSafe program was impressed by the Glo-germ demonstration that was done during the class. She asked Extension Service and Health Department to demonstrate this activity to the PTA of an elementary school. As a result, the board did the hand-washing demonstration with the entire student population in that school, reaching more than 650 children with the importance of proper hand washing.

An Employee Health Fair Example: Rockingham County has a bi-annual Employee Health Fair. The FCE department has a booth at this fair. The theme of my display was Food Safety: Using Thermometers to Determine Safe Temperatures for Cooked Foods. The purpose was to educate participants to the need to use food thermometers when cooking meats, particularly ground beef. The rise in outbreaks of foodborne illness associated with this one type of food has been rising. Over 200 County Employees attended the Health Fair. The week following the Health Fair I received 5 phone calls from participants inquiring where to purchase various food thermometers I had displayed. The most noteworthy call came from an employee in Environment Health who wanted to purchase the digital thermometers for the health inspectors in her department. She felt this thermometer would help facilitate their accurate job performance.

Senior Citizens Program Example: The elderly are at greater risk of developing food poisoning than the general public. Incidence of food borne illness typically peaks during the summer months due to hot weather, cook outs, and other food-related gatherings. A cooperative agreement was formed between Cooperative Extension and United Services for Older Adults to provide a food safety program to 90 limited resource senior citizens at six Congregate Meal Sites throughout Guilford County. As a result of the program, eighty-six percent of the seniors showed an increase in food safety knowledge and planned to make improvements in their food safety practices in order to avoid food borne illness. This amounts to a significant savings in health care cost, \$942 per case of food poisoning avoided, according to University of Virginia Cooperative Extension.

Using the Media for Hurricane Preparation: Food Safety information provided by Celia Witt Beauchamp, R.D., Extension Agent from Pitt Co. was aired from August 27-30 during hurricane Dennis. Information on "How to Keep your Freezer Safe when the Power Goes Out" was broadcast on WITN-Channel 7 and WNCT Channel 9. The information was broadcast approximately 10-12 times as the area prepared for the storm. On Sunday, August 29th the information was presented during a 1 hour

Hurricane Preparation special on Channel 9. Also on August 29, the food safety information was available by internet on channel 7's home page as one of their "TOP STORIES". These two television station's broadcast areas cover a majority of the counties east of I-95 from Virginia to South Carolina. Celia also provided food safety information during a live broadcast on WNCT-TV9 (simulcast on radio due to power outages in the area) on Sept. 18 after hurricane Floyd hit Eastern NC.

Train the trainer Example: A successful component of our food safety program is advanced food safety training for county extension educators. These educators locally present food safety training to consumers (elderly, youth, children) and food service personnel. This program was started two years ago with twelve agents, who had a major responsibility and interest in food safety education. These agents were brought to campus for a three-week intensive, graduate level course in food safety. In addition to the in-depth training, the course required small group projects and individual projects on food safety topics to be completed and resource materials developed that other food safety educators could use. Recently at the statewide in-service training for extension professionals, food science specialists conducted a half-day program highlighting and promoting the success of the food safety training program as well as the agent-developed resource materials. There was a poster session detailing all 12 individual projects and the three group projects.

7. Develop an overall narrative to capture program progress and accomplishments
County offices throughout North Carolina provided a variety of food safety programs (safe food handling, hand washing, food preservation, food service, master food preserver, sanitation, youth cooking classes, etc.) to diverse audiences (children, high school students, adults, senior citizens, Work First clients, child care providers, garden and civic clubs, Extension Homemakers Clubs, Meals on Wheels volunteers, college students, limited resource families, etc.). A growing number of agents are cooperating with others (Department of Aging, Environmental Health, Universities, Community Colleges, etc.) to provide various programs. Several examples of food safety programs across North Carolina will be presented to provide an idea of the variety of programs and audiences which have been reached through CEMP 11.

Consumer education is a reoccurring issue that surfaces at every food safety planning meeting. It is very difficult to reach the vast numbers who need to receive food safety information. Rockingham County offers one example. Y2K concerns have heightened consumer awareness of the need to preserve, store and handle foods properly so to preserve quality, avoid spoilage, contamination and illness. More than 400 residents have stopped by the county office or called to inquire about one or all of these topics. Information packets were compiled and distributed in response to these inquiries. Realizing the tremendous interest in these areas I utilized these hand-outs at 4 health fairs held at the local churches and the community college. More than 840 county residents received this information as a result of this programming effort. In another example from Madison County, Family and Consumer Education Agents in five counties, including Madison, conducted "Food Preservation Made Easy", a four hour workshop held in five counties to inform and educate citizens of proper food

preservation methods. 166 participants attended the workshops. From the 123 post-tests received, 100% of the participants gained knowledge of proper food preservation methods that ensure quality and safety in home preserved foods.

Food safety training for both managers and employees of food service establishments is a major focus for CEMP 11. The ServSafe Food Safety Manager's certification course is a nationally recognized course for foodservice employees. The course teaches sanitation and safety measures to prevent contamination of food which could lead to a foodborne outbreak. According to the National Restaurant Association, the average cost to a restaurant after a foodborne outbreak is \$75,000. The value to society when such an outbreak is prevented at any given establishment is \$17,500, based on the average cost of a foodborne illness (\$1750) times the average number of persons involved in an outbreak. Many county extension agents team with local health departments to carry out training programs. In addition, specialists from the Departments of Entomology, Family and Consumer Science and Food Science, have assisted counties in conducting the training programs. Dare County's tourist based economy provides an excellent example for the need of this type of food service training. In an effort to increase awareness of food safety practices in Dare County, a ServSafe course was offered to 26 managers and staff from 12 local restaurants. Ninety-five percent of the participants in attendance stated that the course identified at least one food safety practice that should be corrected and/or implemented in their establishments. Twenty-three of those present became certified. A great benefit of this session was the opportunity for Extension to form a new collaboration with Environmental Health as well as a new audience. Restaurant personnel also benefited from the opportunity to see Environmental Health personnel in the role of educators as opposed to regulators. Additional sessions are being planned for other restaurant personnel and school cafeteria workers. There were also numerous other counties with similar examples. During 1999, Dr. Angela Fraser focused her food safety efforts on agent training and consumer and foodservice food safety education. Three half-day food safety teleconferences were downlinked to eight sites in North Carolina with an average attendance per teleconference of 20 to 25 agents. These updates provided background information pertinent to agents' food safety programs. Four all-day food safety trainings were given to nearly 100 EFNEP paraprofessionals. Dr. Fraser assisted with the delivery of 21 county-based SERV SAFE programs. She has trained 53 school foodservice directors so these directors can work jointly with the county extension center and the health department to offer training to school foodservice workers. Sixty-eight (68) McDonald's managers were also certified during one of three trainings specifically held for McDonald's Corporation. A six-hour train-the-trainer course was held in conjunction with the NCRA to train 18 foodservice professionals to use the SERV SAFE curriculum with their employees. To better capture the outcomes of SERV SAFE trainings, Dr. Fraser conducted a study sponsored by the FDA to identify how to collect post-training information regarding food safety organizational changes. She has conducted two county-based programs for extension homemakers focusing on consumer issues.

CEMP 11 has several food safety programs for youth. For several years CEMP 11 has

coordinated the Food Safety and Food Quality (FSQ) Symposium. The 5th Food Science, Poultry Science, Food Safety, and Food Quality Symposium for Youth, hosted by Drs. Gary Davis and Lynn Turner, was held on the NCSU campus June 13 to 17, 1999. The 4-H'ers attended workshops on DNA Finger Printing of Poultry, Eggolgy, Seafood Safety, Food Colors that Change with pH, Taste Panels and Aroma Identification, Sensory Evaluation, Searching the Internet for Science, Freezing Foods, and Career Opportunities in the Poultry Food Industries. Participants also toured Goodmark Foods, Krispy Kreme Dough Nuts, and Southern Foods. A pre- and post-test and Food Science, Poultry Science, and food safety issues in the food production industries were given to the participants. The average score of the pre-test was 48% and the average score of the post-test was 92%. The post-test scores indicated that knowledge had been gained during the Symposium.

As part of North Carolina's Food Safety and Quality Cooperative Extension Major Program, a food safety information retrieval system developed for extension educators, to promote food safety to the people of North Carolina and beyond. This award-winning effort has had local and national acclaim. Because of information related to holiday food safety in the system, specifically how to properly cook poultry, a local television station has featured the system during the holidays and set up links from their Web site. The site was also discussed on a local talk radio show, informing the public of this available resource. In addition, the system has been demonstrated and promoted at various conferences and national meetings such as the National Educational Forum for Food Safety Issues and the first annual National Food Safety Education Conference. In a recent site report, it was determined that the site receives an average of 2,124 hits per day.

List names of CEMP committee members and co-chairs

Co-chairs: Pat Curtis & Sandra Woodard

Ken Anderson	Cynthia Brown	Dan Carroll
Gary Davis*	Angela Fraser*	David Green
Suzette Goldman	Judy Henderson	Tom Hoban*
Briton Hopkins	Kevin Keener*	Barbara Kirby
Carol Mitchell	Barry Nash	Mitch Owen
Alice Pettitt*	John Rushing	Brian Sheldon
Christine Smith	Melissa Taylor*	Lillie Tunstall
Lynn Turner*	Bob Usry	Donn Ward
Steve Washburn		

Administrative Liasion: Roger Crickenberger

(*Subcommittee Co-Chair)

CEMP # 12 - HEALTH AND HUMAN SAFETY

Program Description:

CEMP 12, 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 including 1) healthy lifestyles, 2) home safety and crime prevention, 3) agricultural health and safety, and 4) community capacity building.

Abstract: Through the implementation of Extension programs, program participants have increased their awareness and knowledge of topics related to health and human safety. These include proper diet, exercise, and reduction of high risk behaviors. In the home, program participants made their living environments safer by removing hazards and adopting preventive measures. On the farm, increases in knowledge of agriculture health risks and use of protective equipment were recorded.

Number of Units Reporting:

Total Counties Reporting Accomplishments: 29

Objective 1: 16

Objective 2: 9

Objective 3: 12

Objective 4: 5

Measures of Progress and Impact Indicator Totals:

Objective 1 - 115,517 participants increased their awareness and knowledge of preventative health behaviors such as eating properly, exercise, and safety in the home. 9,852 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. It has been estimated that more than \$502,780 in costs have been avoided due to Extension efforts in reduction of high risk behaviors and through preventative health behaviors.

Objective 2 - 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.

Objective 3 - 2,570 participants were reported to have increased their awareness of agricultural (chemical) exposure and other agriculturally 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 injuries. 136 health professionals improved their recognition and treatment of agriculturally related illness and injuries.

Objective 4 - 8 health networks and coalitions were established. 9 on-going systems

to monitor health status and needs in counties were established. 8 strategic partnerships and coalitions for improving health status were formed. 13 partnerships and coalitions are in existence to meet the health and health-related infrastructure needs of counties.

Volunteers Involved: In the 29 counties reporting impacts, it is estimated that 734 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.

Overview of 1999 Program Accomplishments:

Objective 1: Sixteen counties continue to promote healthier lifestyles through educational programs in exercise, nutrition, asthma, cancer prevention, CPR, and immunizations. One county worked with female youth offenders to help reduce high risk behaviors. Many counties targeted educational programs toward senior citizens.

Objective 2: Educational programs in 9 counties focused on a variety health and safety issues including: fire safety, disaster preparation and clean-up, hazardous products in the home, indoor air quality, asthma and allergin control, moisture control, and Y2K preparedness. Counties reported conducting programs for youth audiences and extension homemakers. 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: Programs in 12 counties focused on farm and home accident prevention; pesticide recertification; proper use, storage, and disposal of pesticides; pesticide personal protectional and equipment; and skin cancer prevention. Educational programs were developed for high school students, farm families with special attention to farmers and farm wives, health professionals, agri-business professionals, and others.

Objective 4: Five counties continue to be actively involved in the development of community health partnerships and community health coalitions. Coalitions and partnerships focus on health issues such as cancer, nutrition, chronic disease, health care access, substance abuse, and child safety. NCCES partners in the development of health facilities, grant proposals, and other areas of need in the communities.

Success Story:

Onslow County

Cardio Pulmonary Resuscitation is a mandatory certification child care workers in NC must have in addition to 20 continuing education hours. NCCES-Onslow County Center, offers many classes at times when it is convenient for the child care workers to receive this certification. Thus far this year, two child care workers said they now know the importance in this training because they have had to use the skills of clearing an obstruction in a child at their child care center. Their testimonies helped the others in their class feel the importance of knowing these skills in the event that a child ever choked at their centers.

Wayne County

In response to Hurricane Floyd: information packets were assembled and distributed - Extension Homemakers assisted by placing information in grocery stores and replenishing as needed; 2 public programs were provided with the help of specialists from NCSU, reaching 80 people; moisture meters were made available for check out. 71 people have checked out moisture meters. One person commented "I am certainly glad that I attended the program and learned about the moisture meters. I checked one out, checked my walls and found that I have a lot of moisture still there. I immediately cancelled the carpet installation scheduled for the following Monday." As it turned out, this client had more damage than realized, and would not have found it not for using the meter. Numerous clients have told how they take the meters to their home, and while they have it, several neighbors will use it too.

Rutherford County

Due to 5 previous tractor-related deaths, Rutherford County has worked toward developing a Farm Safety Awareness Program. The Horticulture Agent applied for and received sponsorship from the Progressive Farmer organization to host a "Safety Workshop." Two hundred and fifteen Vo-Agriculture students from 4 local high schools (Polk & Rutherford Counties) participated in the Safety Workshop gathering information on lawn mower safety, disability awareness, first aid for choking, grain safety, fire safety, large animal safety, and hunting safety. Over 27 volunteers assisted with the project and helped secure \$950 of funding for the event. The Safety Workshop was coordinated by the Rutherford and Polk County Extension Centers. Follow-up surveys indicated a 85 percent retention of safety measures taught.

Edgecombe County

With the arrival of Hurricane Floyd eminent, the Edgecombe County Extension Center was at the County Emergency Operations Center at its opening at 5:00 p.m., a full 12 hours before the storm hit the next morning. Two Extension workers left their family and property knowing a hurricane was putting them in danger. Extension comprised from 20 to 30% of the total people staffing the EOC for the first five most critical days. Some Extension staff members worked 16-20 hours per day for the first week of the emergency.

Edgecombe Cooperative Extension staff members contributed significantly to search, rescue and relief efforts during the critical two week period following Hurricane Floyd. Extension did many notable things. These are just a few: established internet connection at the EOC the evening before Hurricane Floyd hit. Without our help there would have been none. This was extremely important because there was no TV, satellite, or even radio communication available; helped arrange, prepare for and land the first rescue helicopters. This took place in the middle of the night. Extension obtained and distributed blankets to these first and remaining rescue victims (most had been standing in water during cold weather). For five days Extension was always at least 20% of the number answering calls for help at the EOC.

The flooding from Hurricane Floyd destroyed approximately 300 homes and damaged 900 homes in Edgecombe County. In response to this disaster, the Edgecombe County Cooperative Extension Office acquired 15 moisture meters for

residents to use for testing the moisture level of the wood in their homes before rebuilding. The meters have been in constant use since they have become available. It is estimated that at least 290 homes have been tested with these meters. The moisture meter program has been instrumental in increasing awareness about the importance of waiting for the wood to

dry to 19 percent or less to prevent future moisture problems, indoor air quality concerns, health problems and further economic losses.

Ashe County

Studies have shown that asthma and allergies are on the rise with one out of every four people suffering from allergies and/or asthma. Total costs related to asthma (medical bills, lost work days) are expected to double in the year 2000 to 14.5 billion. More time spent indoors has been targeted as a contributing factor to increased asthma and allergies. Through collaborative efforts of Cooperative Extension, the Health Department and local doctors and nurses specializing in allergies and asthma thirty-three parents, teachers and child care providers gained new knowledge through a workshop about allergies and asthma with Cooperative Extension providing information on indoor environment. Forty middle school students gained knowledge about indoor environment (the school based health center coordinator who identified asthma and allergies as being one of the primary reasons for missed school days). Ninety percent of the students recognized changes they could make to improve their indoor environment.

Hertford County

Statistics show that Hertford County citizens are at risk for health problems. Hertford Partners For Health is a collaborative community health partnership to address compelling health needs of County residents. The partnership was formed in 1995 to oversee the REACH Community Health Assessment Project Grant received by Roanoke-Chowan Hospital and coordinated by ECU School of Medicine. Cooperative Extension gives leadership as Co-Chair of Partners For Health. Highlights of accomplishments include: Every child in Grades K-8 receives some specialized nutrition education. Indigent patients receive free blood pressure medication as result of Access to Health care Initiative. Middle school students have received preventive/primary health care at their school Adolescent Health Center. Approximately 400 known diabetes patients received outpatient treatment/education, reducing hospitalization and length of stay by 6 percent. Partners For Health will continue progress to improve health care.

CEMP 12 CO-CHAIRS:

Sarah Kirby, Former Co-Chair
Mitch Smith, Current Co-Chair
Barbara Garland, Current Co-Chair
Wilma Hammett
Sandy Wiggins
Donna Edsel

Robert McLymore	Ellen Smoak
Bob Edwards	Judy Mock
Julia Storm	Steve Lilley
Margaret Bullock	Donna Mull

CEMP # 13 - LEADERSHIP AND VOLUNTEER DEVELOPMENT

Program Description:

Leadership and volunteer Development are unique in that this focus applies to all Extension education programs. Each program has the potential for developing leadership competencies as well as volunteer development. Leadership and volunteer development provides benefits to the individual as well as the local county staff. It gives staff members a base from which to extend their on-going programs and involve new leaders in existing leadership and volunteer systems in the organization.

Leadership development builds the capacity of individuals, groups and organizations to address issues in a community. Volunteer development enhances the potential for beneficial community service. Leadership and volunteer development are separate disciplines with unique purposes and methodologies, but they share a common focus that deals with human capacity building for the public good. It is this common focus that the Leadership and Volunteer Development State Major Program addresses.

Abstract:

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 1998 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 (7846) and traditional participants (4649) 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 (8032) 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.

Number of Units Reporting Accomplishments

Objective 1:30, Objective 2:60, Objective 3:32

Statewide Measures of Progress Totals

Objective 1:

Number of participants who increased knowledge and awareness of leadership skills: 7846

Number of participants who adopted sound leadership and decision-making practices: 4447

Number of participants who demonstrated proper application of leadership skills and problem solving techniques learned: 3383

Number of participants who identified community problems: 3054

Number of participants who developed and implemented action plans to resolve problems:2101

Number of projects completed/problems resolved: 887

Objective 2:

Increased knowledge of opportunities for volunteers to contribute: 24983

Adoption of volunteer management system practices: 6764

Number of volunteer management systems established: 443

Objective 3:

Number of persons who demonstrated improved leadership and problem solving skills: 4649

Number of persons who demonstrated acquired/improved facilitation knowledge and skills: 2671

Number of persons who participated in a community collaborative problem solving process: 3449

Number of persons who participated in community/public process as a result of leadership training: 2649

Number of community issues addressed (in progress): 189

Statewide Impacts totals

Objective 1:

Increase in the number of limited resource and non-traditional individuals with the capacity to provide valuable service to the community (assume some leadership roles in church, school, community etc., volunteer): 2972

Dollars saved by increased involvement in addressing community concerns by limited resource and non-traditional leaders: \$213036

Dollars of economic value to community/county for community projects/solving problems: \$1253159

Community organizations developed to continue resolving community problems: 81

Objective 2:

Empowerment of volunteer systems: 824

Economic value of volunteer intervention: \$1661139

@\$10 per hour

Objective 3:

Costs avoided through the resolution of (a) community(s) :\$208018

Dollars saved as a result of achieving successful resolution of a (a) community issue (s): \$465710

7. Volunteers involved and value

Objective 1

Number of Volunteers: 3703

Hours: 38931

Dollar Value at \$10/hr: \$389310

Objective 2

Number of Volunteers: 13042

Hours: 147129

Dollar Value at \$10/hr: \$1471290

Objective 3

Number of Volunteers: 2637

Hours: 30207

Dollar Value at \$10/hr.: \$302070

Success Stories:

Pamlico:

Storm drain stenciling has been completed in Pamlico County using eight 4-H youth and five master gardeners. This is an example of the use of Coop. Extension volunteers to accomplish a community task that likely would not have been done otherwise. As a result of the storm drain stenciling 2 news articles were printed helping citizens learn that anything poured or thrown into drains or ditches will move to the river and sound. There were 85 drains stenciled in four small towns.

Edgecombe:

Buddies for Life is a program conducted by the Edgecombe Cooperative Extension Center with grant funds from the Edgecombe County Department of Social Services in the amount of \$53,700. This program has a full time director and a part time assistant director. Since April 1999 this program has conducted eighteen educational workshops from Character Education to Living in a Family. The group has had the support of 14 volunteers, 2 non-custodial parents, 6 custodial parents and 10 children. The attendance at the educational workshops and the 7 family outings has been outstanding. Because of this program the non-custodial parents' time has increased and both the parents and the child agree that the quality of time they spend together has increased. Buddies for Life participants, ten fathers, have also begun to contribute service to the community. During the Floyd flood disaster they volunteered and delivered clothing and school supplies to other flood victims.

Edgecombe:

Twelve community leaders from Dunbar, Battleboro and the Leggett communities completed 15 weeks of Community Voices training. This training resulted in a caution light being installed at a dangerous crossroad in the community. The community residents wanted a stoplight, but they all agreed that the caution light and the lower speed limit have greatly improved the intersection. The Dunbar community identified the need for funds to paint the existing community building and add an additional room. The center recently received \$13000 to paint and repair the building and have been told they will receive very soon an additional \$25,000 to help with their room addition.

Chowan:

Chowan County Extension Homemakers are active in many community projects. The most recent project, "The Vial of Life" started in May and has been given to 1000 Chowan County residents. This project is geared to persons who are 55 or older or who are chronically ill. Our goal is to provide more than 4000 vials to this population and to reach everyone who is eligible through organized and grassroots efforts. The purpose of the Vial is to enable people to keep an up to date medication list in a designated place in their home in the event of emergency. Emergency personnel will retrieve this information which will help to expedite their care. In addition to the vial, forms are being filled out by the participants to be entered into a 911 database. The

cost of this project is 22 cents per participants and is being funded by Chowan County Extension and Community Association and Chowan Hospital.

Forsyth:

Community service has become a vital avenue for volunteers from business and industry to give back to their communities. Republic Mortgage Insurance company designated 18 staff members from their organization to help conduct and implement the annual 4-H plant sale. These volunteers along with 4-H volunteers handled record keeping, made sales, filled orders, updated materials, assisted with packaging, called clients on the phone, helped with deliveries, maintained all plants and passed out educational information on growing and maintaining plants. As a result of these volunteers and their efforts over \$6000 of business was generated with a profit margin of over \$4000 to the 4-H program.

Nash:

The Peachtree Community Organization has embarked on a mission to build a community building on land that the community owns. The community is a pilot community for the Voices Reach Visions economic development program. The community leaders received leadership development training through the "Community Voices" program. They have also conducted a training workshop "Engaging citizens in the development of communities which enabled them to apply for and receive their 501(c)(3) tax exempt status. The Peachtree community is now engaged in the program "Exploring Opportunities for Community and Economic Development". This program will assist the community in defining its needs and direct its growth and development toward an economic end.

Brunswick:

Damages to Oak Island from Hurricane Floyd exceeded 100 million dollars. Much of the damage incurred was due to an inadequate dune system that did not protect beachfront property. Repairs to the beach area resulted in nine miles of emergency dune system being put in place to protect property and infrastructure. Volunteers are needed to plant this dune to keep it in place. A new program, the "Master Dune Conservation Program" was conducted to train volunteers. Volunteers learned how to propagate, plant and protect dune vegetation. Volunteers have/will plant more than 75000 dune plants to protect the emergency dune on Oak Island.

Alexander:

Residents of a local housing development are primarily limited income seniors and single mothers with young children. Many residents of the Town of Taylorsville report feeling isolated and that a lack of community existed. Residents are not comfortable accessing resources for which they may be eligible. Extension coordinated a fall fun day that would: (1) give residents a planned on-site opportunity for social interaction (2) acquaint residents with community resources and representatives (3) increase visibility of the needs of the apartment community among town officials. Seven agencies led games, music, crafts and activities, even voter registration. Results: a committee of senior adults assumed full leadership for two children's activities. Three

families assumed leadership for delivering meals to homebound residents. Several residents stepped forward and agreed to help with future needs assessment. Communicating this success with apartment officials resulted in an opportunity to meet with staff and discuss future needs and an on-site meeting facility.

Wake:

Many parents living in public housing communities in Wake County feel that they are unable to effect positive change within their communities due to the lack of skills and knowledge. Community Voices for Children, a SmartStart funded, 4-H managed initiative providing leadership development training to parents and caregivers of children birth to five and has been nominated by HUD for the Best Practices Award for implementing the program and providing support to the public housing community. Baytree is located in rural Wake County. Several residences of Baytree completed the Community Voices training, developed an action plan and invited the Mayor to assist them in their decision-making process. The residents developed a newsletter, "Better Baytree". A mission statement was developed which addresses advocating for and strengthening families. All residents of rural Fuquay-Varina are encouraged to join them in making changes for the lives of families and young children.

Wake:

Many of us have been taught that we "can't make a difference in city hall. Participants in Wake County 4-H Youth Development's Community Voices program learn not only that they can make a difference, but how to make that difference. Participants are involved in a series of leadership development activities that help them find their voice and use it to solve problems that they identify in their community. For example, Community Voices participants from the Shiloh community in Morrisville are working with that town's planning department and the Shiloh Community Coalition regarding family friendly development (i.e. parks, walks, libraries). Linda Lyons, a Community Voices graduate, was sworn in as a new Town Commissioner of Morrisville based on their "family-friendly" development platform and active participation in local associations and coalitions.

Rockingham:

Illiteracy robs people of their potential. It blinds them to hope and opportunity. Studies show that school dropouts are more likely to possess low level communication skills. To address this issue in the community two Rockingham county volunteers instituted their own neighborhood tutoring assistance program. One volunteer lives in the housing community. Their program, located in a low-income public housing community provides assistance with reading, writing, listening and speaking skills along with other homework assignments. The assistance is available five days a week. The local housing community manager allows the volunteers to use an office as the location for the tutoring assistance.

Overall Narrative:

A total of 7846 limited resource individuals were exposed to leadership skills. Limited

resource and other nontraditional individuals participating in the identification of community problems totaled 3054. The completion of 887 projects/ resolution of issues was achieved by limited resource and other non-traditional leaders. In addition 4649 citizens and leaders participated in community/public decision-making processes as a result of leadership training. A total of 2671 individuals gained facilitation skills that are important in the resolution of issues. A total of 24983 individuals were introduced to volunteer opportunities. A total of 6764 adopted volunteer management practices. Many of these individuals provided volunteer services to their community through local organizations and agencies, involvement in organized community activities, 4-H and homemaker club activities. Some are mentors for other leaders or youth mentors to youth, officers in volunteer organizations, managers of other volunteers and leadership training facilitators.

CEMP13 Committee Members and Co-chairs:

Claudette L. Smith, Co-chair

Pat Peele, Co-chair

John Gibson

Ellen Miller

CEMP #14 - MARKETING AND PRODUCTION OF ALTERNATIVE INCOME OPPORTUNITIES

Program Description

The goal of the CEMP is to assist commercial (objective #1), and small, part time and limited resource producers (objective #2), to select among and implement alternative opportunities so as to increase their income. Program efforts have been made in developing and disseminating information on commercial horticulture specialty crops, niche markets (including organic, herbs and livestock), and agri-tourism. The CEMP team continues to focus on business planning to address issues of risk in production and marketing. It also has helped developing and disseminating materials on coping with change as alternative enterprises are considered. Finally the CEMP played an active roll in helping agriculture in Eastern NC in the face of the flood crisis.

Abstract of Accomplishments

Statewide Measures of Progress Totals

Objective #1

*Producers indicating interest in developing alternative enterprises

NUMBER 1415

*Number of producers who try alternative enterprises, methods and practices

NUMBER 520

Objective #2

1. *Number of producers interested

NUMBER 1401

2. *Number of producers who try alternative enterprises, methods and practices

NUMBER 390

Statewide Impacts Totals

Objective #1

1. *Dollars of new investment in production and marketing of alternative enterprises
NUMBER \$2,428,250
2. *Dollars of gross income resulting from new investment and marketing of alternative enterprises.
NUMBER \$2,066,075
3. *Number of producers who gain knowledge about alternative production and marketing practices.
NUMBER 1425

Objective #2

1. *Number of producers who gain knowledge about alternative production and marketing practices
NUMBER 1402
2. *Funding support obtained
NUMBER \$69,754

Volunteers Involved and Their Value

Objective #1

206 Volunteers provided 7181 hours of volunteer assistance valued at \$71,810.00

Objective #2

183 Volunteers provided 1076 hours of volunteer assistance valued at \$10,760.00

Success Stories that show Program Impacts

In Lenoir County, during 1998, Cooperative Extension, specialists at the university, and NCDA specialists formed a team with fourteen growers to develop a marketing and production umbrella group focusing on specialty crops. The group has formed a cooperative known as the Southeast Growers Association. All growers have worked with Extension to produce the same high quality product. During 1999, 29 growers worked together and sold about 180 acres of produce. This included cantaloupe, watermelon, tomatoes, squash, lettuce and greens, all sold under the SGA umbrella. The gross was about \$980,000. In addition, approximately \$100,000 of local business was generated for local truckers and \$70,000 for local box companies.

Madison County has developed a comprehensive response to the decline in tobacco. That comprehensive approach has involved a partnership of Cooperative Extension, the local community college and a local non-profit group (which had originated as a result of a Kellogg Project in which Extension was a partner). The Madison County collaboration has conducted a small farm course at AB Tech (the community college) entitled "Successful Mountain Farm Options". Seventy farmers participated in 1999. As a result of participating, two-thirds changed their current production operation. In addition, the local partnership held an Alternative Agricultural Seminar and over 40 farmer who attended the eight workshops learned new production and marketing

skills. Finally, the Madison County group opened a Farmers Market for the first time. With help from over 20 community volunteers, fifty Farmers Market Association members and thirty other vendors sold at the market throughout the season. They recorded sales of \$25,000, money that stayed in the county.

Narrative of Program Progress

The issue of alternative farm enterprises continues to be of major importance here in North Carolina. The reduction in tobacco quota over the past three years has had a profound impact on farm income. Other crops and livestock enterprises also have faced record low prices. In addition, 1999 was a year marked by record floods and drought. Thus farmers and Extension agree that the time is right to explore new farming income options. That exploration must be in response to market signals and based on sound business planning. Many counties are banding together to offer alternative enterprise fairs. People are looking at new alternatives such as a partnership of agriculture and tourism. There is a coming together of resources within the land grant system so that best management practices, organic production and marketing, sustainable agriculture perspectives and alternative enterprise mixes are being explored conjointly. All are based on business planning as educators and farmers are looking for market driven solutions. The CEMP has worked with these various parties and collaborators as well as non-government groups, the Risk Management Agency and the Farm Services Agency.

CEMP Team Members

John M. O'Sullivan (co-chair)

Bill Jester (Co-chair)

Jeanine Davis

Morris Dunn

Bob Edwards

Ed Estes

Rick Hamilton

Ray McKinnie

Doug Sanders

Wick Wickcliff

Taylor Williams

Ada Wossink

CEMP # 15 - NATURAL RESOURCES CONSERVATION AND MANAGEMENT

PROGRAM FOCUS

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.

OVERALL NARRATIVE

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 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. All of the forestry, fisheries and wildlife extension publications are available through the Natural Resources website (<http://www.ces.ncsu.edu/nreos>). 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.

VOLUNTEERS

Volunteer educators for environmental education and natural resource decision

making totaled 207 in the first half of 1999.

NUMBER OF UNITS REPORTING

Objective 1 - 3; Objective 2 - 9; Objective 3 - 12; Objective 5 - 3

OBJECTIVE 1: ECOLOGICAL AWARENESS THROUGH ENVIRONMENTAL EDUCATION

Program Description: Participants, particularly youth, will increase their appreciation for and knowledge of biological diversity and ecosystem management. Educational programs presented by Extension Agents to teachers of youth included Project Learning Tree, Project WILD, Aquatic WILD, Catch Clinics, and Wildlife Habitat Judging.

Units Reporting Accomplishments: 3

Statewide Measures of Progress

1,534 persons participated in environmental education programs

1,594 persons delivered educational programs

31 requests for leadership training in educational program delivery were fulfilled

Statewide Impacts

675 programs were delivered
78 volunteers were involved.
376 hours were spent
\$3,760 was the value of volunteer leadership

OBJECTIVE 2: NATURAL RESOURCE DECISION MAKING

Program Description: People confronted with a wide range of viewpoints on natural resource and environmental management issues will gain knowledge, awareness, understanding, and skills to develop plans for overcoming barriers that prevent them from realizing the link between informed decision making and the capacity to sustain natural resources and the quality of life.

Units Reporting: 9

Statewide Measures of Progress:

27,758 people gained new knowledge

2,286 people made presentations at group meetings

Statewide Impacts:

658 people adopted new technology to solve environmental problems
449 people came to environmental forums
129 volunteers presented programs
1,038 hours were dedicated by volunteers to present programs
\$10,380 was estimated value of volunteer time

Cost/Benefit

\$37,500 value generated for targeted audiences
\$180,000 value to society in general from the program

Narrative:

This objective involves education of youth and adults about sustainable development and environmental quality. Youth audiences were reached through publication of "School Yard Environmental Projects: A Planning Primer", written especially for school teachers and 4-H Extension Agents. This publication is available in both English and Spanish.

OBJECTIVE 3: FOREST STEWARDSHIP

Program Description:

Participants will maintain or improve the long-term sustainability of North Carolina's forests.

Units Reporting: 12

Statewide Measures of Progress:

391 people were educated
38 stewardship plans were prepared
36,132 acres were put under stewardship planning
101,000 acres were leased for recreational use

Impacts:

115 people were educated about the Forest Stewardship Program
\$155,500 was received by landowners for recreational leases
\$6,432,391 was received for timber sold from stewardship planned lands
\$384,545 of value was enhanced due to planning for forestry and wildlife resources

Cost/Benefit

\$2,365,675 estimated values provided to targeted audiences

\$4,193,500 estimated values provided to society in general

Narrative:

The Forest Stewardship Program is the leading example of how the North Carolina Cooperative Extension Service add value to North Carolina through working with the North Carolina Forestry Division. The program is comprehensive, involving all phases of forestry from education of youth (reported above in Objective 1) to educating private landowners in planning and utilization of natural resources on their lands.

OBJECTIVE 5: WILDLIFE AND FISHERY MANAGEMENT

Program Description:

Participants will improve the management of wildlife and fishery resources.

Units Reporting: 3

Statewide Measures of Progress:

338 landowners attained new knowledge about wildlife and fishery management

186 landowners adopted new practices for fishery and wildlife population and habitat management

Statewide Impacts:

35,400 acres were managed better for fishery and wildlife resources

27,300 acres were leased for fishery and wildlife recreation

25 people became volunteers in providing educational programs

121 hours were spent by volunteers in delivering programs

\$1,210 of value was expended by volunteers

Cost/Benefit

\$126,900 of value was received by target audiences

\$1,197,800 of value was received by society due to fishery and wildlife education

Narrative:

Within this program lies the agriculture-wildlife applied research program, dedicated to increasing desirable wildlife populations and values on farmlands in eastern North Carolina through habitat enhancement and economic analysis. The applied research program is in the middle of a 5-year demonstration research effort,

in which the wildlife response to field border management, predator management, and ditch-bank management is being assessed. Additionally, the project links with water quality in Bio & Ag Engineering and Integrated Pest Management in Entomology. The economic tradeoffs considered by landowners when diverting land for wildlife habitat have been measured. A video, "Quail at the Edge: Can We Bring Them Back?" was produced in 1999. These educational products should generate enthusiasm among extension agents for delivering the program to interested landowners. The program is cosponsored by the North Carolina Wildlife Resources Commission and the Natural Resources Conservation Service. The fishery management aspect of this project has been enhanced by putting the Farm Pond Management Guide extension publication on the WWW.

CEMP TEAM MEMBERS

Peter T. Bromley, Zoology Department Extension Leader (Co-Chair)

James Pearce, County Extension Director, Edgecombe County (Co-Chair)

Bob Bardon, Forestry Extension Specialist

Claire-Marie Hannon, 4-H Center Director, Riedsville

Bill Gardner, Forestry Extension Specialist

Rick Hamilton, Forestry Extension Specialist

Mark Megalos, Forestry Extension Specialist

Scott Payne, Forestry Extension Specialist

Jim Rice, Fishery Extension Specialist

Bob Williamson, Natural Resources Extension Specialist

Bill Lord, Neuse River Environmental Education Specialist

Janine Rywak, 4-H Agent, Anson County

CEMP #16 - NUTRITION AND WELLNESS

Program Description: 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. It is rooted in the science base that nutritional status has a direct impact upon health and wellness, quality of life and the ability to achieve physical and mental potential. Fundamental to its precepts is the acknowledgment that diet-related risks involved in chronic diseases can be lowered through improved health behaviors and that healthier pregnancy outcomes can result from better prenatal nutrition.

Overview of 1999 Nutrition and Wellness CEMP accomplishments: Promoting optimum nutrition and health through diet and lifestyle in all North Carolinians regardless of gender, income, age, or race/ethnicity formed the main focus of the Nutrition and Wellness Cooperative Extension Major Program. 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. Programs offered included Partners in Wellness, Give Your Heart a Healthy Beat, Healthy Heart, Our Destiny Is Our Decision, Be Active Kids, NoonLiting, Out For Lunch, Expanded Food and Nutrition Education program and the In-Home Breast-feeding Support Program. Programs were held in many different settings including congregate nutrition sites, senior centers, schools, churches, government buildings, businesses daycare centers, work sites and outdoors. Various methods included using the Internet, mailed materials, media, one-on-one contacts, and public meetings. Audiences reached included adults and the elderly, day care workers, hospital employees, housing authorities, Head Start, Red Cross, food banks, and community coalitions. In support of these activities CEMP members brought in more than 4 million dollars in grant and contract funds. As a result of the CEMP programming, over 63,000 participants increased awareness of their need to have good nutrition habits and over 24,500 changed diet and lifestyle habits, and improved their quality of life and the quality of life of others. Over 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. As a result of the changed diet and lifestyles over 760 decreased high blood cholesterol levels, over 270 decreased high blood glucose levels, over 490 decreased high blood pressure levels, over 1200 decreased excess body weight and over 3000 adopted behaviors to improve their chances of delivering a normal weight baby.

Number of Units Reporting Accomplishments per Objectives:

- Obj. 1: 70 units reporting
- Obj. 2: 39 units reporting
- Obj. 3: 19 units reporting
- Obj. 4: 45 units reporting

Statewide Measures of Progress Totals:

63263 participants increased awareness of need to have good nutrition habits

52316 participants increased knowledge that promotes health
 42417 participants increased attitudes/aspirations that are indicative of need for good health
 5392 participants decreased fat consumption
 4032 participants decreased sodium consumption
 5024 participants increased fruit and vegetable consumption
 3422 participants increased calcium consumption
 7849 gained in knowledge that leads to reduced risk for chronic disease
 6043 increased skills that lead to reduced risk for chronic diseases
 2141 parents increased awareness and knowledge of importance of good nutrition for children
 2119 parents increase knowledge about good eating habits for children
 2834 parents and children participated in food and nutrition activities together
 15792 participants increased awareness of available programs such as Food Stamps, WIC, free/reduced school meals
 18076 increased knowledge of nutrition and diet

Statewide Impacts Totals:

24753 participants improved diets to be more consistent with dietary guidelines for good health and the Food Guide Pyramid
 761 participants decreased their high blood cholesterol level
 493 participants decreased their high blood pressure level
 273 participants decreased their high blood glucose level
 1260 participants decreased excess weight
 2749 children adopted food behaviors consistent with the Dietary Guidelines and Food Guide Pyramid
 4648 parents adopt food behaviors consistent with the Dietary Guidelines and Food Guide Pyramid
 3183 women practiced behaviors to help improve their chances of delivering a normal weight baby
 2943 adopted behaviors such as seeking prenatal care
 13786 participants changed their meal planning to improve their diets

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

Success Stories:

In an effort to improve older adults nutritional status and reduce malnutrition, Rutherford County Cooperative Extension Service conducted the Partners In Wellness Curriculum in three congregate nutrition sites. During a six month period, seventy one older adults participated in sixteen weekly sessions focusing on nutrition-related issues unique to limited resource audiences aged sixty five and older. Through a random selection personal interview process, we were able to determine behavior changed in sixteen percent of the program's participants. One hundred percent of those interviewed had made changes positively affecting their diet and appetite. Table

setting and food presentation techniques were adopted and all reported an increase in appetite as a result. All had made improvements in their diets by eating more fruits and vegetables. All stated they had adopted a new tracking system which had helped them to better manage their medications resulting in fewer side effects and drug interactions.

Collaboration between community agencies interested in the health and well-being of our county's citizens has resulted in the fifth offering of "Give Your Heart A Healthy Beat" for over 80 county residents. As a result of the collaboration initiated by Extension personnel, 3 county residents who were not aware of their blood sugar levels have been treated for their diabetes. In addition 65 persons have reduced one or more risk factors for heart disease and stroke. Ninety percent of participants have increased their knowledge of risk factors for heart disease and stroke and how they can reduce their personal risk. Ninety percent of persons participating in the class report they have included healthier foods in their diets and added exercise to their normal routine.

The agent in Craven County graduated 180 participants from two 12-week "Give Your Heart A Healthy Beat!" programs. Evaluations have shown that 95 percent of the participants felt they had gained knowledge that would help them make healthier food and lifestyle choices, 104 were able to reduce their blood cholesterol, blood pressure, or both and 125 reduced their weight/body size. 152 participants indicated they had adopted a regular exercise program (at least 3 times/week).

A nutrition booth was done by Cooperative Extension at a Kid's Day America Program in Chapel hill, with over 390 parents and children participating. Parents were very interested in the exhibit on the amount of fat in certain foods. Over 100 nutrition videos were distributed to families for use in homes, schools, and the community.

Programming on the appropriate feeding of preschoolers was conducted with parents and day care providers. 32 parents were reached through workshops with the local "Parents As Teachers" program and a local head start center. 48 providers were trained in and received free materials to conduct "Be Active Kids", a curriculum for 4 and 5 year olds on healthy eating and physical activity. These 48 providers reach 629 children. FCE agent reached 346 children through activities designed to increase their awareness of the importance of eating fruits and vegetables (5-A-Day). Activities included "Dinosaur Eggs" for story hour at 5 libraries, 1 head start center and 1 Housing Authority children's group: school nutrition fair at 1 elementary school; and workshop on preparing healthy snacks for Housing Authority teen group.

To maintain optimal health and fitness in the military, all enlisted individual's weight is closely monitored. The local US Air Force contacted Cooperative Extension when fifteen men had exceeded weight limits. After several conferences, a series of ten classes was set up for a twelve week period teaching good nutrition, balanced diet, exercise, and changing eating habits. The men were closely monitored for dietary recalls and were counseled each week. After the twelve weeks, one hundred percent

had achieved their weight loss goals. In a follow up conference with the wellness coordinator they reported it was the best weight loss program they had ever participated in and had requested another class in three months to help keep them on track. The series of classes were modified from NoonLiting.

The Out for Lunch program has been in Stanly county for two years. Recently the adult program assistant saw one of the participants, a single mother of four, from the first session in the grocery store. Proudly she related she had gone back to school, gotten her GED and was about to finish a nurse assistant certification course. She had lost weight and when asked she responded, "Out for Lunch taught me how to eat right and had given me confidence to go back to school."

Mrs. G., from the Shiloh Community in Camden County, heard about the NoonLiting Program through members of her church. She had been trying to follow her doctor's suggestion to lose 25 pounds for health reasons but she had never been able to do it. She faithfully attended all the NoonLiting sessions, used the exercise equipment in the senior center and made the lifestyle changes necessary to take the weight off. She lost 32 lbs and now 12 weeks later, she is still keeping the weight off. She also has begun helping out with recruiting people to attend future sessions of NoonLiting. There's nothing better than a walking billboard for your programs.

With an award of \$3000 from the Tennessee Valley Authority, 126 EFNEP families in a seven-county unit developed family gardens. Each family received \$40 in garden supplies and produced an average of \$250 in produce per family (total benefit: \$31,500 from an investment of \$3,000). Several youth groups learned how to preserve produce and exhibited in the county fair.

A young homemaker from a very remote areas of a rural mountain county was so inspired after graduating from EFNEP that she began baking many new recipes. During the summer of 1996, she opened her own business, a bakery in the county seat. Her husband constructed her work tables and display case. They have three small children and need to help support parents who live nearby. The bakery is now in its third year of operation.

In association with the local hospital and health department 260 individuals with diabetes have been taught simple practices to control their blood sugar. 250 have shown improved glycemic control which greatly reduces the chances of encountering secondary complications like neuropathy, retinopathy, vascular problems and renal failure.

Harnett County began a volunteer training program that prepares adults to work with 4-H EFNEP groups. During the current Plan of Work the county has graduated 2,175 youth from 167 clubs. Led by 335 volunteers who contributed over 10,903 hours, the youth groups have experienced a standardized core curriculum and the support of belonging to a club.

Northhampton County received EFNEP innovative funds to conduct three-week summer day camp experiences at four locations. As an economically depressed area, the county offers few opportunities to its youth. The project became a collaboration among the school food service, public schools, county recreation department and EFNEP. Site selection was based on community family clusters who were in walking distance of the school. The school food service provided breakfast and lunch daily through the schools. The curriculum included nutrition, garden-ing, fitness, self-esteem, agricultural production and processing enterprises and arts. Trained staff managed the programs but were supported by volunteer teachers. The project resulted in a collaboration that has continued to work providing positive experiences for the young people.

To address the chronic disease issue in the 60+ population, North Carolina Cooperative Extension -Perquimans Center, PPCC District Health Department and the Chowan Hospital sponsored the 1999 Senior Health Fair. Seventy-two were reached with awareness information via concurrent sessions, screenings, exhibits. Of the 59 participating in the screenings, 29 had cholesterol readings of 200 or more. Thirty had BP readings above 140/90. Participants received valuable information needed to maintain good health and saved \$4,720. In screening/counseling sessions Sponsors gained information useful in planning future educational programs.

Heart disease is the number one killer disease in NC. Eating soy foods may help to reduce risk of heart disease, but many people do not cook with soy because they don't know how. Cooperative Extension in association with the Health Department, Wake Forest University School of Medicine and Lowe's Foods conducted 3 classes reaching 166 consumers to help them understand the benefits of soy and how to cook with it. A survey mailed 10 months later to the 54 participants in the first class showed that 81 percent now use soy products at least once a week and 44 percent use it 1-2 times daily. Of those who have had cholesterol checked since the class, 67 percent report a reduced level. Since elevated cholesterol is a risk factor for heart disease, participants who are incorporating soy into their diets and reducing their cholesterol may be at reduced risk for heart disease.

Overall Narrative to Capture Program Progress and Accomplishments:

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 that were offered included Give Your Heart a Healthy Beat, Healthy Heart, Healthy Choices By Design, Active for Life, HomePlate, Osteoporosis and Noonliting. Educational programs specifically designed for limited income audiences included Be Active Kids (for 4 and 5 year olds), Out for Lunch (for adults with small children who are not EFNEP participants), Partners in Wellness (for adults 60 years and older), Expanded Food and Nutrition Education Program (for young women with small children), Our Destiny Is Our Decision (for the Cherokee Nation), and the In-Home Breast-feeding Support Program (for breast-feeding mothers). Programs were held in various settings including schools, congregate nutrition sites,

senior centers, hospitals, churches, government buildings, businesses and outdoors, and for various lengths of time. Various methods used in educating the public included TV, billboards, the Internet, the mail, one-on-one contacts, and public meetings. Audiences reached included the elderly, low-income audiences, breast-feeding mothers, children, and others. Collaborators included state agencies, more than one Governor's Task Force, Red Cross, food banks, housing authorities, day care workers, hospital and health department employees, and community groups. As a result of the programming over 63,000 participants increased their awareness of the need for good nutritious habits.

CEMP Committee Members and Co-chairs: Co-chairs: Jackie McClelland and Nancy Smith

Team : Sarah Ash, Geissler Baker, Susan Baker, Carolyn Dunn, Sharon Farless, Lynn Hoggard, Carolyn Lackey, Candace Murray, Doris Sargent, Christine Smith

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

Synopsis:

The educational programs of CEMP-17 aim 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.

Overall Narrative and Accomplishment Numbers:

Objective 1 - Target audiences will adopt best management practices for residential and public facility pests.

Public concern about exposure to pesticides continues to increase. People are demanding "safer" or "less toxic" solutions to pest problems in residential, recreational and work environments including what have been termed "sensitive area", such schools, daycare centers and extended care facilities. Our educational programs emphasize two key points. First, a pest control program should not rely solely on a reactive program involving pesticide applications. The preferred approach is one involving IPM approach, which requires an effort to determine when, where and how pests are becoming a problem, then deal with them in an appropriate manner. IPM control strategies emphasize nonchemical and chemical methods that disrupt pest activity and make habitats less favorable to them. Second, pest control should not be viewed as simply the responsibility of pest control operators. Success only comes with a combined effort between the PCO and the client to eliminate conditions that attract pests and allow them to flourish.

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.

Objective 2 - Consumers will increase their knowledge and adopt practices concerning proper plant selection, cultural practices, and plant pest management strategies that maximize plant performance while minimizing inputs, and protect environmental resources.

County agents provided education programs to gardeners through a wide variety of methods: meetings, radio programs, newsletters, demonstration gardens, workshops, exhibits, web sites, television programs, news articles, etc. 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 (valued at \$1,404,531) 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.

Objective 3 - Youth will increased their knowledge of plants, insects, and the environment while learning new gardening skills through participation in 4-H, school, and special interest classes, and activities.

Youth programs were offered through school class rooms and demonstration gardens. Numerous special interest classes, projects, and contest were conducted in nonschool settings. Over 18,300 youth actively participated in school gardening activities and projects and 6,370 youth actively participated in 4-H horticulture activities and projects.

Number of Units (Counties) Reporting:

Objective #1 37

#2 62
#3 38

Statewide Impact totals

Objectives #1

21,180 participants reduced their risk of being exposed to insecticides through reduced and/or targeted insecticide usage.

19,123 participants demonstrated a better understanding of the use of IPM as a means of enhancing their ability to be good environmental stewards.

Objective #2

182,636 gardeners adopted two or more recommended practices that enhance plant growth (or yield) while minimizing inputs.

176,726 participants adopting two or more recommended practices that reduced pesticide or fertilizer misuse and water contamination.

Program participants saved \$979,579 through utilizing appropriate cultural and pest management practices.

Objective #3

10,752 youth demonstrating increased personal responsibility by growing and caring for their own plants at home.

31,172 youth demonstrating increased proficiencies in application of horticulture skills and knowledge.

Volunteers Involved:

Objective #1 395

#2 2,177

#3 466

Success Stories

Success stories from CEMP 17 can be as diverse as the audience Extension serves. Examples, of county education programs and their results include:

Moore - A series of programs delivered in January-March sought to improve water conservation practices. An evaluation mailed 6 months later revealed that 50 percent had changed fertility management, 50 percent used new information in plant selection, and 64 percent changed irrigation practices. 80 percent changed pest management by monitoring, tolerance, and/or pest identification.

Craven - Master Gardener volunteers have maintained a demonstration vegetable garden on the grounds of the Extension office since 1990. Produce is donated to local organizations which provide services to the needy, disabled, and elderly. Value of

produce donated in 1999 was \$3,800. Educational activities associated with the garden included Master Gardener volunteer training, visits from garden clubs, newsletter, and newspaper reports.

Union - 122 homeowners from the Town of Indian Trail received a compost bin to participate in a municipality project to reduce yard waste, landfill cost, and to return a product that is environmentally safe into the landscape and garden. Participants attended a seminar on Backyard Composting. As a result of the program, a savings of \$10,565 was received by the town and the participants.

Forsyth - Many of the consumer horticulture needs in Forsyth county are met by volunteers of the Master Gardener program. In spite of a 20 percent increase in population over the last two decades, volunteer development in the horticulture field has allowed two full-time Extension agents to educate both commercial and consumer clientele very effectively. Currently volunteers log in more than 4,000 hours of community service time with a value added savings to the county of \$55,000 annually.

Wake - The "WaterWise" gardener program has established two demonstration sites in the county, held day-long training, and installed a demonstration garden. Utilizing contacts with Wake County Parks and the State Park System, a rain garden and alternative practices for stormwater management have been installed in parks. Visitation at these sites averages over 500,000 individuals annually.

Burke - Two educational workshops - Proper Tree Pruning and Wildlife Control in the Landscape were attended by 110 landscapers, Master Gardener volunteers and homeowners. Forty-one participants adopted best management practices such as how to prune and when to prune. Seventy-one participants developed a better understanding of IPM to enhancing their ability to be environmental stewards. By adopting these useful practices it was estimated to have enhanced the property value of each participant by fifty dollars to make a total savings of \$5,500.

Chatham County - With the drought this spring and strain on water resources, proper landscape watering practices need to be emphasized. A TV segment was broadcasted through WRAL. Proper watering practices were discussed including the "tuna can" method. After the broadcast, 1,400 people accessed the WRAL website to obtain more information about the material that was covered.

Buncombe - Has used several methods of distributing information about lady bug "invasions". Networking with a local radio station, a county agent was able to record PSA's to inform the public. It is estimated that 30,000 individuals listen to the PSA's. Information was also provided through the Asheville Board of Realtors. The paper is circulated from over 400 locations throughout Buncombe. Providing correct information on the control methods for ladybugs helps prevent the misuse of ineffective pesticides in people's homes.

Guilford - Teachers ask Extension for practical info on the value of trees to teach their students. As part of a program called Plant 2000, a school curriculum for 4th graders was developed. Students used hands on materials such as tree cookies to learn the age of trees. They did leaf collections to learn species and reviewed a slide set about their city and where and how trees are used for air and noise pollution as well as for aesthetics. After this the students were asked to write letters using creative writing skills to inform elected official of what they would like to see as their city continues to develop. All schools in the county were given a tree to plant on school grounds.

Currituck - Master Gardener Volunteers instructed 250 students at Moyock Elementary on different tasks to beautify their school with more than 20 individual gardens campus wide. An assortment of gardens were constructed that consisted of landscape gardens with trees and woody ornamentals, butterfly gardens, and herb gardens. The students were trained in plant identification, composting, and site specific planting.

Caldwell - The design of low maintenance landscapes and productive home gardens are important to homeowners. The need for information about the proper application of fertilizers and pesticides in a safe and timely fashion is of utmost concern. The Caldwell Center provided horticulture information to 6500 clients. 1300 phone calls were answered with a per call value of \$35.00 (\$45,500). Twenty five newspaper articles submitted with an estimated circulation of 11,912. Application of this information increased land value by an estimated \$1,750.

New Hanover - is losing thousands of trees from wind storms, hurricanes and urban development. Cooperative Extension coordinated a collaborative effort with inter-agency sponsors for an event called Tree Fest. Twenty-six thousand trees were distributed to over 4,000 county residents.

Buncombe - The practice of tree "topping" creates unsightly trees that detract from the value of the property and the appearance of the neighborhood, as well as producing unhealthy, hazardous trees. A caller indicated that he had heard one of my radio programs explaining why topping should not be done. "I was just about to hire someone to top a tree in my yard. I am so glad I heard that program and I won't have it done."

Rowan - Arbor Day was very successful with over 400 youth participating from 4 different schools. Miller Center Youth Garden is a community garden which involves both adults and youth from predominately African-American community. Twenty five youth and 10 adults are participating in the project. 4-H County Council has constructed raised planters for disabled citizens at the site. Rowan County Master Gardeners also involved with 4-H Summer Fun.

Pasquotank - More than 24 raised beds were built on public and private school grounds. Teachers supervising lessons among students planting and maintaining these beds, seek Extension recommendations for educational activities and pest management methods. After one Extension Agent brought 4-H adult volunteers and

FFA instructors together, the adults formed both Senior and Junior competitive horticulture judging teams. The Senior team took second place in competition at 4-H congress and the junior team placed fifth.

Membership

Erv Evans Co-chair

David Curtis Co-chair

Mike Waldvogel

Karen Neil

Art Bruneau

Larry Bass

Toby Bost

Charles Apperson

Carl Matyac

Steven Bambara

Lewis Howe

CEMP #18 - RESIDENTIAL AND COMMUNITY WATER AND WASTE MANAGEMENT

PROGRAM DESCRIPTION: Residential and Community Water and Waste Management Cemp impacts the private and public sectors environmentally and economically. Drinking water quality, wastewater management, watershed management and waste management are the key elements. Proper management of waste wastewater, and water shed ultimately affect drinking water quality.

ABSTRACT:

Almost 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.

NUMBER OF UNITS REPORTING ACCOMPLISHMENTS: 35 counties

5. STATEWIDE MEASURES OF PROGRESS TOTALS:

67,370 people increased their knowledge and awareness of quality best management practices to prevent contamination of water

2753 people adopted best management practices to prevent water contamination

207 reduced water contamination risks as a result of changed practices after water screenings

1840 people increased their knowledge and awareness of waste water systems

158 people had their septic tanks pumped

442 people adopted best wastewater management practices

54 people avoided septic system failure by changing practices

7700 people increased their knowledge and awareness of the need for water quality and conservation
 655 people adopted best management practices to conserve industrial and residential water
 41,095 people increased their knowledge and awareness of waste management principles
 2357 recycling programs were implemented
 1560 industries /municipalities adopted waste management practices
 9320 consumers adopted improved waste management practices
 93,370 gallons of used oil collected for recycling from farmers and do-it-yourselfers
 55,333 lbs of household hazardous materials collected for recycling/reuse

STATEWIDE IMPACT TOTALS:

\$425,000 healthcare dollars saved through detection and treatment of contaminated water
 \$395,500 costs avoided in replacing failed septic systems
 \$78,100 costs avoided through decreased use of residential water
 \$25,200 costs avoided through decreased use of public water
 \$212,371 saved by municipalities through reduction of amount and toxicity of water
 \$5,329,884 saved through reduced waste in landfills
 \$1,242,286 saved through recycling materials
 \$73,880 saved by counties or municipalities through Project HERO

7. VOLUNTEERS INVOLVED AND VALUE:

1372 volunteers/\$56,360

8. SUCCESS STORES

Cherokee County

Trash accumulation near lakes, streams and rivers is a problem in certain areas of Cherokee County. In September of 1999, the North Carolina Cooperative Extension Service of Cherokee County coordinated the local annual waterway cleanup for North Carolina Big Sweep. The event was a great success with three hundred and fifteen volunteers cleaning eight sites throughout the county. Approximately 9,100 pounds of trash were collected from the sites. Large items included 40 tires, sofa, washing machine, carpet, hood of a car, mattress, box springs, refrigerator, chairs, toilet, vinyl flooring, plywood, tarps, fishing rods and various other items. In addition, several environmental education programs were presented to younger children on litter prevention. With the efforts of the many volunteers, several areas near waterways are now clean and aesthetically pleasing.

Craven County

To address urban stormwater management, Cooperative Extension held an alternative paving workshop. The workshop was designed for municipal planners, engineers and

involved citizens interested in minimizing the impact of impervious surfaces as related to urban stormwater runoff. The group of eighteen went through intensive design worksheet and toured a demonstration. As a result of this workshop, Tryon Palace, a historical governor's home in New Bern, is planning to utilize this method of paving as it undertakes renovation of its facilities. Also, New Bern city planners and Craven Co. planners will promote this BMP among the builders and developers in the community.

Davidson County

The Davidson County Extension Service received a \$7350.00 grant from the N.C. Department of Agriculture to implement a pesticide container recycling program. The funds were used to purchase nozzels and other supplies for the farmers to use to implement the program. Training was held for pesticide dealers and local farmer applicators as well as the county landfill boxsite attendants. Each individual receiving training and materials signed an agreement to recycle their empty pesticide containers. In late May, 20 pesticide dealers, 39 farmers and 12 box site attendants were trained in proper techniques for recycling pesticide containers. To date 451 containers have been recycled by 15 participants. This is an average of over 30 containers per participant.

Franklin County

Most people assume if their drinking water is clear and taste good, that it is safe to drink. This could not be further from the truth. Cooperative Extension, along with Tritest labs and numerous volunteers, conducted a drinking water screening program for the citizens of Franklin County. Over 240 water samples were brought to the Extension office. Many people participating in this event had never used Extension before. Those who participated in the project learned if their water was free from bacterial or nitrate contamination. If a sample did show signs of contamination, the person was instructed on the dangers associated with and how to remedy the problem. People who did not participate in the program may also have an increased awareness of water quality issues brought about by the publicity of this program.

Mitchell County

Straight piping of home waste into the streams of Mitchell County was identified as a major problem with as many as 500 home involved. Cooperative Extension provided coordination with NC Department of Commerce to secure a grant of \$250,000 to address the problem. To date 8 systems have been installed and 50 more are awaiting installation. Thus far approximately 150,000 gallons of waste has been prevented from entering the streams.

Onslow County

The hurricanes and associated flooding prompted many health concerns in the area. One concern in particular was in regard to the safety of well water from wells that had been submerged. Personnel from Extension and the Onslow County Health Department cooperated together to ensure that appropriate information was distributed. One result was that there was no panic or alarm among the residents. The OCHD handled

sampling for bacteria contamination. If a positive sample occurred, homeowners were advised to contact Extension for a nitrate screening, particularly if infants were in the home.

Transylvania County

Home*A*Syst" was introduced to the community through a newspaper article. Individual communities & homeowners associations were contacted for presentations about the program. Although only 2 communities (60 people) attended the workshops, other communities requested the written materials (200 copies of each of the 5 publications). The groundwater model & septic model were utilized by the high school & the 4H environmental club. Feedback from the presentations reinforces the concept that people don't realize how much that they don't know about the impact of their home environment in the "big picture". We continue to work on sharing this information.

Lincoln County

The question of what is in your drinking water has been an increasing concern for Lincoln County citizens. Because of this concern, the need to promote water safety awareness for well owners became an environmental issues project for the Lincoln County Extension Homemakers. One of their projects involved teaming up with North Carolina State University to conduct a Residential Nitrate Screening Program. Thirty-six samples were screened. Four of these samples were found to have median levels of nitrates. The clients who brought in these samples were counseled on their next step. The water screening provided an opportunity to serve customers who had never used or heard of Cooperative Extension. Of those who had water screened, 58 percent had never participated in a Cooperative Extension program.

Guilford County

Each year, thousands of tons of discarded tires, white goods, and plastic pots go into the waste stream of NC. The CES and Guilford County Planning Department have co-sponsored five tire and white goods collections days. The most successful one thus far was the most recent one held in May, 1999 with a total of 24,800 lbs. of white goods and 46,400 lbs of tires brought to be recycled. The inmates and staff from the county prison unloaded these items from the participants' cars. All of the collected items will be recycled, thus eliminating them from the waste stream.

Nash County

In March, 1998, Nash County Extension Staff conducted nitrate screening clinic. The highest nitrate level in well samples screened was 12. As a result of this reading, the older couple connected their home to their son's well next door. The son reports that the 4 years prior to this change, his father had been to the hospital every 2 months for kidney stones. Since the change in household water supply, 14 months ago, the father has not experienced any problem with kidney stones. He termed this clinic as "one of the best programs you have ever offered."

Vance County

A rural homeowner contacted an agricultural extension agent and indicated that a water treatment salesman performed a free test on water from his new well and found three parts per million iron. The salesman advised the homeowner to purchase a water treatment system for \$4800.00. The extension agent recommended a water analysis offered through the N. C. Dept. of Agriculture and Consumer Services for only \$4.00. The homeowner followed the agent's recommendations, and the test results showed virtually no iron and no need for a water treatment system. The agent's advice resulted in a direct savings of \$4796.00 and even more if maintenance on the water treatment system is included.

Lee County

Unused and outdated pesticides that are stored on farms and in homes create a very real threat to our environment. Lee County Cooperative Extension collaborated with the North Carolina Department of Agriculture to conduct a Pesticide Disposal Day at no charge to area farmers and homeowners. As a result of this program, a total of 4,382 pounds of old pesticides were collected and disposed of properly. This program eliminated a huge threat to our environment and saved local government at least \$50,000 in disposal costs.

Yancey County

The Yancey County Christmas tree recycling project was very successful for the 7th season. County Extension Director Johnny Hensley was successful in getting the trees chipped by a volunteer firm, saving the county an estimated \$450.00 in equipment rental fees. Approximately 800 trees were chipped into useful mulch in about 2 hours. The chipped mulch created a volume of approximately 95 cubic yards. The two new recycling-convenience centers opened by the county in the last quarter of 1998 have been well received by the communities. More citizens are now recycling one to several different items.

Watauga County

Received three different grant's totaling \$145,000 to implement a watershed education program in the New River Basin. Landowners and resource managers in Watauga, Ashe, and Alleghany Counties are learning from NCSU Extension faculty how to protect trout streams through land management, stream channel restoration, and riparian buffers. 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. A major strength of this project is the local support. Local agencies work very well together. There is tremendous support from the community. Currently, more than 25 citizens are participating in a volunteer monitoring program. There is also support and collaboration from Appalachian State University and Lees McRae College.

Watauga Count

The Watauga Cooperative Extension Service has conducted water screenings in four communities including Bethel, Valle Crucis, Blowing Rock, and Boone. Over 150

private water supply wells was tested for lead, nitrate, and pesticides. Twelve local day care centers was also screened. Homeowners and day care operators received valuable information and increased their knowledge on water quality health issues. No significant ground water problems have been detected.

OVERALL NARRATIVE:

During 1999 there was a large amount of effort concerning water quality. 107,754 citizens increased their awareness and knowledge of water quality while 2933 adopted water quality best management practices to prevent water contamination. There was \$772,500 saved through improved water quality, \$263,500 saved through decreased cases of water contamination and \$425,000 in health care dollars saved through detection and treatment of contaminated water. 180 volunteers were involved in the program with a value of their time estimated at \$8190. The value to targeted audiences was estimated at \$506,724 with a value to society of \$920,000. Estimated program cost amounted to \$10,080.

Wastewater management programs have targeted homeowners, builders, realtors, health department professionals and wastewater management businesses. Straight piping was recognized as a major problem in one county. Extension worked with other agencies and received a \$250,000 grant to correct problems. Eight modified systems have been installed and 50 more are scheduled for installation. As a result of this effort, 150,000 gallons of wastewater have been removed from entering streams. In another county, 40 septic tanks flooded from Hurricane Floyd were pumped. The Extension On-Site Waste Treatment Website and the Southeastern On-site Treatment Training Center have received 1,012 and 507 visits respectively and prompted many e-mail questions. Almost 2000 people participated in septic system maintenance programs, including 47 realtors in the coastal counties in the Southeast district. About 10% of those had their tanks pumped after the programs.

During 1999, effort in promoting and conducting a watershed management educational program yielded the following accomplishments: 655 persons adopted best management practices to conserve industrial and residential water, 7700 persons reporting an increased knowledge and awareness of a need for water quality and conservation. There were cost avoidance through improved individual water quality of \$59,160, improved residential water quality of \$16,800, decreased use of residential water of \$78,100 and a decreased use of public water of \$25,200. There were 617 volunteers involved in the program for a total of 1952 hours valued at \$19,520. The value of the program to the targeted audience was \$143,200 and the value to society estimated at \$1,459,00. Estimated program costs was \$16,750. Program emphasis has included water conservation techniques, proper land application of treated sewer wastewater, storm water management, and stream monitoring. Educational programs included field days, watershed demonstration projects, and volunteer training to implement stream monitoring programs.

Waste management programs have targeted businesses, industries, consumers, and youth. Over 41,000 people increased their knowledge of waste management

principles including 1800 K-3 students and 900 fifth graders have participated in recycling/composting programs in their classrooms using Extension materials. Also include in that group were 600 parents of preschoolers who learned about recycling in their counties. Over 300 volunteers in one county participated in NC Big Sweep. 1560 industries adopted waste management practices. Over 93,300 gallons of used oil was collected for recycling from farmers and do-it-yourselfers. 55,333 pounds of household hazardous materials were collected for recycling as well as 5.25 tons of tires, 1 ton of white goods and 4,000 pounds of plastic pots.

CEMP COMMITTEE MEMBER AND CO-CHAIRS

Wilma Hammett	Co-chair
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Deborah Myatt	Deanna Osmond
Suzanne Rhinehart	

CEMP #19 - RESILIENT YOUTH, FAMILIES, AND COMMUNITIES

Program Description:

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.

Program Overview:

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.

Number of Units Reporting:

Objective one: 40
Objective two: 10
Objective three: 18

Total 68

Statewide Measures of Progress:

Objective One: Youth

Increased life skills 15,303
Increased literacy 10,630
Increased community involvement 10,920
Increased knowledge of alternatives to alcohol & drug use 7,031

Objective Two: Families

Number of money management plans made 279
Increased knowledge and awareness of effective communications skills . . . 4,959
Increased knowledge and awareness of family coping and nurturing practices 4,527

Objective Three: Communities

Collaborations established 209
Prevention programs developed 60
Criminal reduction 282
Economic/community programs 58
Family support programs 98
Increased knowledge of prevention 4,977

Statewide Impacts:

Objective One: Youth

Increased life skills 14,644
Improved academic performance 6,328
Expanded citizen involvement 10,949
Reduced drug use 2,838

Reduced judicial involvement	755
Reduced violence	774

Objective Two: Families

Dollars saved/reallocated	\$63,900
Conflicts reduced	5,580
Coping and nurturing adoption	5,468

Objective Three: Communities

Community development value added	\$1,508,297
Increased leadership	1,755
Dollars saved in collaboration	\$331,176
Dollars saved in risk reduction	\$2,421,324

Volunteers Involved and Value:

	<u>Volunteers</u>	<u>Hours</u>	<u>Value</u>
Objective One: Youth	3,385	38,000	\$380,000
Objective Two: Families	730		\$20,850
Objective Three: Communities	591	15,050	\$150,500

Success Stories:

Youth

Working in conjunction with the public schools, 4-H in Wayne County facilitated and wrote the 21st Century Grant. The Public Schools received \$1.2 million over a three year period to provide enrichment, academic and family programming during after-school time. 4-H entered into an agreement to conduct after-school enrichment programs and to conduct 4-H Saturday Academies to increase the student's academic performance. During the eight weeks of the 4-H Saturday Academies, 192 students attended. One principal said, "If it was not for the computer class held during the 4-H Saturday Academy, the number of students passing the state computer test would have been less." Quardelia, one of the students said, "I learned how to take a topic and write a paragraph."

Since January 1999, 32 court referred youth were diverted from training school through the Duplin JCPC 4-H Outreach Program, saving approximately \$1,280,000 in incarceration costs. An additional 202 youth living in high crime neighborhoods participated in 4-H Outreach summer day camps.

Families

The NC Cooperative Extension - Bertie Center and the Department of Social Services partnered for the third year to prepare 16 Work First participants for the transition from

welfare to the workplace. Due to the success of last year's mentoring program, grant money was found to continue the mentoring component. Sixteen Work First clients participated in learning strategies that enabled them to increase their knowledge, skills, and aspirations in areas of goal setting, self-esteem, financial management, nutrition, parenting, and volunteerism. More emphasis was placed on helping participants find employment. Six are now gainfully employed.

In collaboration with the Family Resource Center and the Health Department, educational information was presented to Work First participants. Those in the program participated in the following classes: time/stress management, manners and appearance, personal development, careers, wants and needs, budgeting, women's health, and nutrition. As a result of the total program, participants gained the knowledge and skills needed to make more informed decisions for themselves and their families. They also became more confident in job seeking and how to provide the dual role of working mom and family caregiver. Because of this program, several participants found jobs.

Communities

In Cumberland County a grant for over \$20,000 provided funds for simulation infants, car seats, and strollers for "Baby Think It Over." Over 140 young people participated by caring for their infants for four days and three nights. One hundred percent of the participants have stated to have experienced an increase in awareness in the responsibilities of parenting. Additionally, all stated they are too young to be parents and that they want to wait before having a baby.

Adolescents, parents, and communities need help in building the resilience of adolescents. Cooperative Extension in Watauga County played a key role in reshaping the county pregnancy prevention coalition into a volunteer entity. This was necessary due to loss in funding. Although the pregnancy rates in Watauga are low, the need for the services continue. CES and 4-H helped the coalition perform strategic planning and expand its focus from pregnancy prevention to general adolescent health issues. The coalition involves Watauga County Healthy Carolinians, Watauga Medical Center, and numerous other agencies.

Narrative:

Forty counties reported progress as a result of involvement in community based programs which focus on building resilience for youth in high risk environments. Over 35,000 youth demonstrated increased life skills, literacy, and community involvement. Over 3,000 reduced drug and alcohol use, judicial involvement, and violence.

Ten counties reported programs targeting families. Programs have been conducted for North Carolina's Work First and court-mandated families. Participants learned basic money management skills such as budgeting and investing, allowing them to reallocate resources to meet pressing family financial demands. Behavior modification and

parenting programs seek to strengthen family ties and foster parent-child relationships.

Two hundred seventy-nine (279) families learned to save/reallocate \$63,900 through effective money management. Four thousand nine hundred fifty-nine (4,959) families developed effective communication skills, allowing them to reduce conflict and strengthen interpersonal communications. Four thousand five hundred twenty-seven (4,527) families increased knowledge and awareness of family coping and nurturing practices, and five thousand four hundred sixty-eight (5,468) families adopted appropriate coping and nurturing practices.

Eighteen counties used a community improvement focus to establish 209 formal collaborations and 60 new community based prevention programs. These programs resulted in over \$1,500,000 value added to participating groups.

CEMP 19 Team:

Thearon McKinney, Co-Chair
Bettina Odom, Co-Chair
Millie Bruton
Shirley Callaway
Mike Davis
Carolyn High
Susan Jakes
Steven Lilley
Wayne Matthews
David Mustian

Deborah Myatt
Robin Roper
Shirley Rouse
Ellen Smoak
Sheilda Sutton
Robert Williamson

CEMP #20 - YOUTH DEVELOPMENT

Programs Description:

CEMP 20 - 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 developmental 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.

Program Overview:

A major goal of 4-H Youth Development Program is to help young people participating in 4-H programs to develop life skills and assets that will allow them to become competent, caring, and responsible citizens. In 1999 emphasis was placed on helping young people improve their life skills/assets in the areas of communication skills, cooperation, empathy and caring, critical thinking and planning and goal setting.

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.

Number of Units Reporting Accomplishments

Objective One: 91

Objective Two: 51

Objective Four: 22

Statewide Measures of Progress:

Objective One: Long term support systems will develop competent youth.

Agents in 91 counties reported the following number of youth in 4-H clubs and other long term 4-H experiences strengthen targeted life skills:

Increased communication skills	40,853
Increased decision making skills	38,567
Increased awareness of community service	43,364
Increased knowledge gained	73,793
Increased leadership	27,085

Agents also reported that over 31,938 families has been actively involved in 4-H during 1999.

Objective Two: Youth involved in 4-H school enrichment programs will demonstrate improved academic performance.

In 1999, 4-H Agents in 51 counties reported training 2,887 teachers in the areas of curriculum content and program delivery process. After their training, teachers then returned to their class rooms and implemented the program. Approximately 83,000

students participated in 4-H school enrichment programs in 1999.

Objective Four: Limited income youth residing in Diverse/Public Housing will increase life skill development.

In 1999, 4-H Agents in 19 counties reported working in diverse housing sittings with limited income youth to increase life skill development. They reported forming 123 new 4-H clubs for children 5 to 8 years old's in addition to their programs for older youth. Youth participating in the reported 4-H programs acquired and/or increase the following life skills:

Acquired decision making skills	2,715
Acquired skills to resist peer pressure	1,353
Defined aspirations	990
Acquired skills in conflict resolution	1,273

In addition, counties reported that as a result of the 4-H community service projects their Diverse/Public housing communities saved \$31,250.

Statewide Impacts:

Objective One: Long term support systems will develop competent youth.

The impact of active participation in 4-H on young people is illustrated in the statistics below:

- \$573,993 saved by communities from 4-H community service projects
- \$393,486 scholarships received by 4-H'ers
- \$713,578 earned as a result of 4-H project work

Increased Competencies in:

Managing relationships	26,436
Communication skills	26,110
Making decisions	26,096
Self Confidence	28,991

Objective Two: Youth involved in 4-H school enrichment programs will demonstrate improved academic performance.

The 4-H School Enrichment Program is designed to provide school-age youth with hands-on learning experiences that will enrich their class instruction. Teachers reported that while participating in a school enrichment program their students improved:

- 25,109 Class attendance (39,579 students)
- 23,994 Homework completed (37,226 students)

18,987 Quality of homework (31,852 students)

28,196 Science grades (39,305 students)

Objective Four: Limited income youth residing in Diverse/Public Housing will increase life skill development.

The programs for limited income youth residing in diverse housing focused on participants improving their resistance to negative peer pressure and improving their goal setting skills. Agents reported that 1,169 young people improved their resistance to peer pressure 1,134 more clearly defined their aspirations. One thousand one hundred forty-four (1,144) youth ages 5 to 8 increased their competencies within their environment.

Volunteers Involved:

Twenty thousand six hundred thirty-four (20,634) volunteers worked with young people in 4-H clubs, school enrichment programs, diverse housing units and other long term special interest activities during 1999. Their combined efforts total 218,022 hours for a value of \$2,180,220. On average, volunteers committed 11 hours to their local 4-H program.

Success Stories:

While the statistics reported above illustrate the impact 4-H programs are having in the lives of youth, families and communities, success stories like the ones below make the true impact of 4-H come alive.

- Jenny Lobdell, 4-H alumnus from Transylvania County, is a communications assistant with the North Carolina Museum of Art. In a letter written for our county 4-H newsletter, she explained how her 4-H experience helped prepare her to get her job. "I learned to be poised in interviews in order to give a good impression; this in turn helped me win a scholarship for college and helped me attain my position at the Museum. In 4-H leadership positions, I learned to trust in and appreciate my own abilities to plan and carry out many kinds of tasks and goals. I also learned to acknowledge the value and potential of the people around me. In college, I found that many students (without this experience) were unable to plan and delegate within a group for reliable cooperation and efficiency."
- Many high school students do not have the opportunity to see first hand what is involved in a career of their choice. Wayne County 4-H collaborated with a civic club to conduct a career day in which 91 high school students experienced a day with an adult in a career. The day ended with a luncheon to honor the students and adult volunteers. Each student had to write an essay about their experience and included remarks such as: "This day helped me decide what I want to do as a career". Another student commented. "Through the 4-H career program I learned that what

I though I wanted as a career was not really for me. This program helped me see this before I invested my time in college preparing for a career".

- Caswell County has a large percentage of its population that commutes outside the county to work resulting in a need for extended hours of child care especially during the summer. School age children are a undeserved population in Caswell. Caswell County 4-H worked with Caswell Parks and Recreation and a school age child care grant to expand the availability of childcare for youth ages 6-13. As a result, 40 new school age child care slots were provided and parents have requested expanding the program to an after-school program during the school months. Youth in the program formed 4-H clubs and used 4-H curriculum during 10 weeks of programming.
- Youth in Rutherford county need opportunities that will help grow into responsible citizens and productive employees. Home, school and community take on the role in providing those opportunities. In cooperation with the county school system, 4-H was able to target 120 "at risk " youth through the S.O.S program at four local middle schools. For ten weeks youth worked daily in the Career Smarts curriculum. During this time they gained an understanding of the local job market, application and interview procedures, and secondary education opportunities. One young man felt the program was so worthwhile that he plans to volunteer with the program next year. Parents of some of the participants commented on the activities in the curriculum.
- Teachers in Henderson County need training in using manipulatives and hands-on activities in the integration of math and science lessons with real world application. WCU Center for Math and Science Education funded a \$15,000 grant that promoted a partnership between NCCE 4-H and Henderson County Public Schools. The grant furnished equipment and training in the use of graphing calculators for eight public school teachers. The training will enrich classroom experiences for approximately 700 students. The cost savings to the school system in staff development, equipment, and other resources is \$12,600.
- Every year Orange County 4-H, in collaboration with the local school systems, sponsors a 5 week middle school day camp. This year the 4-H agent worked closely with the schools migrant coordinator to encourage the Latino population to attend this summer event. The program runs all day with half day structured enrichment classes and half day recreational activity. The program was able to provide approximately 30 camper scholarships for this population of teens. The attendees as well as the parents had a very satisfying experience. From this participation five of the 30 teens were offered a 6 day ,5 night scholarship to Orange County's sponsored overnight camping experience. Next year plans are in place to sponsor a one week Latino sponsored day-camp in order to increase 4-H experience to this target audience.
- Although there will be many hurricane and flood stories in Pitt County, members of the Pitt County 4-H Livestock Club compiled their community service efforts and

showed what impact youth can make in their community. The 20 members of the club ranging in age from 7-17 were eager and worked hard to serve their communities throughout the disaster. They reported evacuating over 50 adults and children stranded in their homes, preparing and serving over 3000 burgers in shelters, and donating clothes, money, etc. to flood victims. In addition, the club performed a variety of service projects from sorting items at shelters to sandbagging, baby sitting, and doing laundry for victims. There is no total for the number of hours contributed by the members. Although this work is commendable, it is even more remarkable because five of the club members became flood victims themselves.

- One of the strengths Wake County holds is the diversity of programming within 4-H Clubs. New ideas and views are constantly being implemented to support the growing need to diversify. The Youth Horticulture 4-H Program has provided an open, inclusive program and had integrated a number of special need children into their program. In the past four years they have intentionally reached out to include more and more from the disability community. The summer programs have been devoted entirely to inclusive programming, including a satellite class in the community. At least ten different disabilities have been represented in the group, and thirty-five children and youth with disabilities have been served. Not only has this been an extremely valuable experience for the disability community, but has enhanced the learning and understanding of the normal and gifted population.
- In light of recent headlines about school and workplace violence, the N.C. Cooperative Extension Service in conjunction with East Elementary School and Moonshadow Learning Services held a "hands-on" conflict resolution program for all fifth graders attending East Elementary. The three programs used were: "Talk it Out" by the school guidance counselors, "Talking with T.J." by Swain County 4-H and a two day hands on conflict resolution training using out door ropes course by Moonshadow Learning Service. The conflict resolution program met the needs of some sixty culturally diverse fifth graders in thinking through problems and gave a better understanding of how to resolve them with a "win win" result. Due to the amount of low income families in Swain County, over \$1,200 was donated by local business and members of the community in order for all of the fifth grade youth to participate in this important program.

Narrative:

Active involvement in 4-H programs gives young people opportunities to develop life skills and assets that they will need to become competent, caring, and responsible citizens. Club activities, presentations, peer helper/mentor programs, community service projects, judging teams, school enrichment programs and recognition provide the settings for young people to improve their communication skills, learn how to work in a group, develop critical thinking skills, learn how to be a leader, learn to plan, problem solve and goal set.

In 1999, approximately 200,000 young people participated in a variety of 4-H programs. Agents reported that 20,634 volunteer provided guidance and support to 4-H'ers, totaling 218,022 hours. These volunteers provided adult role models for youth that needed community support.

Participation in long term programs such as clubs and day camps helped 26,436 young people increase their ability to manage relationships; helped 40,853 young people improve their communication skills; helped 38,567 young people improve their decision making skills and helped 28,991 young people improve their self confidence. In addition, many students participating in 4-H school enrichment programs improved their academic performance. Improvement was strongest in the areas of homework and improved science grades. Targeted programs for limited income youth residing in resistance to negative peer pressure and improving their gal setting skills. Agents reported that 1,169 young people improved their resistance to peer pressure while 1,134 4-H'ers more clearly defined their aspirations.

While the statistics above illustrate the impact of 4-H programs on the lives of youth, families and communities, the true impact of this program is very difficult to measure. In fact, the results of participating in 4-H is not often seen until the 4-H'er is an adult. Becoming a caring, competent, and responsible citizen is an accumulation of many life experiences. 4-H is an organization that is equipped to provide young people with many of those needed life experiences.

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Diane Gibson, Co-chair

Travis Burke

Ed Maxa

Shirley Callaway

Robert Mustian

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Lou Otto

Travella Free

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Wallace Simmons