

DISTRICT OF COLUMBIA
COOPERATIVE EXTENSION SERVICE
AGRICULTURAL EXPERIMENT STATION

**FY 2002 JOINT ANNUAL REPORT OF ACCOMPLISHMENTS AND
RESULTS**

March 1, 2003

UNIVERSITY OF THE DISTRICT OF COLUMBIA

District of Columbia
Cooperative Extension Service and Agricultural Experiment Station
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District of Columbia

Cooperative Extension Service and Agricultural Experiment Station

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INTRODUCTION

The responsibility of the University's Agricultural Experiment Station (AES) and Cooperative Extensive Service (CES) units is to work together to find solutions to urban community problems through research, education, and public service. Thus, we have jointly worked on multistate, integrated and community projects that have enhanced the communities of DC residents. The Agricultural Experiment Station conducts research on problems continuously encountered by urban residents in an attempt to develop a sustainable urban agricultural system for the improvement of the economic and social welfare of urban families. Research emphasis has been focused on, but not limited to, urban conditions such as nutritional and health risks in the elderly; food quality and storage; restoration, conservation, and preservation of the city's environment and natural resources; water quality; pest management; urban gardening; soil improvement; soil testing; and safe recycling, horticulture, and composting methods. AES and CES have established very successful Professional Development programs. The Teacher Training programs provided training in areas such as environmental and agricultural education, water environmental studies and youth development.

The Cooperative Extension Service (CES) has developed programs to support family and community development, consumer and financial knowledge and skills, nutrition and health, human relationship and parenting, youth development, horticulture, and reading literacy educational needs. CES provides educational offerings through the Environment and Natural Resources (ENR), the Community Resource and Economic Development (CRED), the Family and Consumer Sciences (FCS), and the 4-H and Youth Development (4-H) programs, as well as the Center for Nutrition, Diet and Health (CNDH) research projects and programs. AES and CES are continuing to find ways to provide enhanced educational opportunities for the residents of the District of Columbia and to maintain high quality, relevant programs. Our multistate, integrated and community projects have helped to improve the quality of life for the residents of the District of Columbia.

A. FY 2002 ACCOMPLISHMENTS AND RESULTS

GOAL 1: AN AGRICULTURAL SYSTEM THAT IS HIGHLY COMPETITIVE IN THE GLOBAL ECONOMY

Overview

DC Extension and the DC Research Station are unique in the land-grant system because they exist and operate exclusively in an urban area. Extension agriculture in the District of Columbia was best characterized as horticulture. Urban agriculture for FY '02 was

addressed by providing Home Lawn and Gardening Services to the residents of the District. A high-demand Home Lawn and Gardening Assessment Program was initiated and the Soil Testing Service was expanded to increase service capacity, thus increasing the service impact on District residents.

The findings of the DC Experiment Station's Agronomist revealed that there was a growing interest in urban gardening, particularly among elderly city residents and professionals who do urban gardening for recreational purposes. Methods of increasing produce yield, through sustainable urban agriculture techniques, has had an impact on hundreds of DC residents cultivating home, public, and professional gardens.

Key Theme: Urban Gardening

- a. **Description:** The Master Gardener and the Junior Master Gardener programs exposed adults and youth to principles of horticulture that increased awareness and educational opportunities through the study of agriculture. The Junior Master Gardener Program provided inner-city youth with hands-on horticultural skills training and environmental experiences that instilled a sense of empowerment and accomplishment. The overall objective for the Master Gardener Program was to train Washington, D.C. citizens to be resources in their communities for gardening expertise. UDC trained Master Gardeners are in the community to increase the outreach of cooperative extension and provide a foundation for beautification of the District of Columbia.
- b. **Impact:** One hundred Junior Master Gardeners had their own outdoor vegetable garden plots to plant, maintain, and harvest. The garden harvests were shared with their families, as well with the DC Central Kitchen. The homeless shelters in the District of Columbia receive their food from the DC Central Kitchen. Thirty-two Master Gardeners were trained at UDC and provided 650 hours of horticultural expertise to the District of Columbia.
- c. **Funding:** Smith-Lever/State Matching Funds
- d. **Scope:** State Specific

Key Theme: Home Lawn and Gardening

- a. **Description:** The lawns and gardens of District residents are exposed to a variety of environmental substances and conditions that have affected the residents' quality of life. This program provided technical assistance to homeowners and some renters as well as to neighborhood associations seeking advice on the beautification of the public spaces within their neighborhoods.
- b. **Impact:** Direct technical assistance and instruction were provided through residential and commercial site assessment visits, telephone consultations and other educational methods. One hundred and fifteen (115) site assessments provided assistance to area public and private facilities to determine disease and/or the conditions of lawns, trees, plants, and shrubs. Recommendations were made for treatment, pruning, removal, and transplanting, and suggestions for alternative landscaping design plans to beautify and save the environmental welfare of the areas. It is estimated that this program impacted one hundred and fifteen thousand residents and transients traveling on the streets within the treated sites. Qualitative assessment indicates that the impact of these improvements was evident through

the personal and community pride reflected by residents, neighbors, and the community volunteers who undertook the work by contributing in excess of 750 hours.

- c. **Funding:** Smith-Lever Funds/State Matching Funds/Private Donations
- d. **Scope:** State Specific

Goal II: A SAFE AND SECURE FOOD AND FIBER SYSTEM

Overview

Food Safety and quality continues to be of public concern. It is estimated, that a minimum of 6.5 million people suffer from food borne illnesses each year in the United States. The Centers for Disease Control and Prevention (CDC) estimate the incidence to be as high as 81 million cases per year, and the economic cost may be as high as 22 billion dollars annually in health care expenditures and low productivity. While the food borne illness statistics for the District of Columbia are unavailable, some experts believe they closely parallel those reported by CDC and are a current health issue for the food safety of our residents. The UDC CES Center for Nutrition, Diet, and Health (CNDH) was awarded grants to provide the level of education and training in food safety necessary to expand the capacity of DC agencies to help ensure that at-risk populations receive a higher quality of service, and that the risk of food borne illness is significantly reduced. Additionally, the Extension Service has also initiated a food safety program in the Asian community. As one of DC's fastest growing populations, this community provides food services throughout the District of Columbia.

The Experiment Station's NE-103 Postharvest Physiology is a multi-state regional and integrated research project deals with postharvest physiology of fruits. Collaboration with scientists at the USDA ARS in Beltsville MD has continued since 1998. UDC has benefited from the use of their laboratory facilities, equipments, and expertise relative to the conduct of experiments, and USDA has been receiving student assistants from UDC to carry out the fresh-cut operation of the research. Several papers have been generated jointly for publication. The most recent article is "Sanitary Dips in Solution Containing Calcium Maintain Quality and Shelf Stability of Honeydew Chunks."

Key Theme: Food Safety

- a. **Description:** The Asian community is a fast growing population in the D. C. area, with both new births and arriving immigrants. The research indicates that providing knowledge and skills at a young age helps ensure more educated citizens. Therefore, the Extension Service has initiated a food safety program in our Asian community for our youth. This activity was aimed at teaching children about the importance of washing hands before eating or touching food. Fifty (50) children of Asian descent, between the ages of 6 and 14 were provided with hands on lessons on the importance of hand washing and the proper technique necessary to achieve this goal. The Glit-kit was used to demonstrate and simulate the appearance of germs on hands.
- b. **Impact:** Forty-five of the fifty children learned proper hand washing technique. This was measured using the glit kit
- c. **Funding:** Smith-Lever Funds/State Matching Funds

- d. **Scope:** State

Key Theme: Food Safety

- a. **Description:** This activity provided 235 seniors with information on Food safety techniques such as proper storage temperatures, possible temperature abuses, appropriate storage procedures, thermometer readings and calibration, hand washing and personal hygiene. The information provided served as an eye opener to those present, as the participants made references to things they were unaware of, and practices that they were wrongly following. In this activity, the curriculum was provided by USDA and consisted of a videocassette and brochures. These brochures were colorful and were printed in a large format. A discussion and question and answer session followed.
- b. **Impact:** During a follow up visit, approximately 55% of the seniors stated that they now wash their hands before touching food, 78% stated that they refrigerate food promptly and freeze portions immediately on cooling. Although it is illegal to take food home from congregate meal sites, seniors have been observed carrying perishable items such as fried chicken, milk, juice etc out of the facility. After the training was completed, and a follow up conducted a month later, 98% of the seniors had stopped the practice and were now only taking non-perishables such as crackers and cookies home with them.
- c. **Funding:** Smith-Lever Funds/State Matching Funds
- d. **Scope:** State

Goal III: A HEALTHY, WELL NOURISHED POPULATION

Overview:

Many of the community outreach activities under this goal were provided under the program “Nutrition-on-Demand.” This program was designed to meet specific nutrition education needs of the community. Agencies, groups or community volunteers requested nutrition education workshops held at sites that were tailor-made for a specific audience. The topics ranged from prenatal, infant and toddler nutrition to obesity, diabetes, HIV/AIDS, low fat cooking, reading, understanding food labels, and budgeting the food dollar. Additional program activities offered under the CES Center for Nutrition, Diet, and Health (CNDH) were the “5 A Day program,” a National program to encourage individuals to eat at least 5 serving of fruits and vegetables every day to promote good health, and the “Healthy Eating for Educational Success” program, designed to introduce students to healthy food choices. The overall goal of the program was to assist children in choosing healthful foods to improve health.

The DC Experiment Station conducts a multistate regional and integrated nutritional research project focused on nutrition in the elderly in the District of Columbia. The population of aged Americans has grown considerably over many years. It has been estimated that approximately 12% of the U.S. population are over the age of 65 with a projected increase to almost 30% by the year 2050. Although Americans are living longer, many 65 years and older may be at risk for malnutrition and/or obesity. Some are at risk because of poor eating habits and diets that lack nutrients such as calcium, Vitamins D, E, B₆, and B₁₂, as well as important nutrients available in

fruits and vegetables. Poor eating habits also result in excesses of salt, sugar, and fats. Recent studies have estimated that improved nutrition and lifestyle could reduce illness and death from cancer by 30 to 40 percent; death from cardiovascular disease by 22 to 30 percent; and cases of diabetes by at least 50 percent. Thus, when nutritional knowledge is high, people are more likely to change their behavior to improve their quality of life.

Key Theme: Human Nutrition/Nutrition on Demand

- a. **Description:** Diabetes education classes were held at 4 sites- Upper Cardozo Clinic, Federal City Shelter, East of the River Clinic and Hunt Place Clinic. Senior Nutrition Programs were held at Adas Israel Senior Fellowship and UDC Institute of Gerontology. Children's nutrition programs were held at sites throughout the city, and included The Dance Institute of Washington, Joseph Cole Recreation Center, Banneker Recreation Center, Therapeutic Recreation Center, Smothers Elementary School, Bunker Hill Elementary School, Minor Elementary School and The Chinese Community Center. A variety of teaching tools were used and classes focused on hands-on activities and interaction.
- b. **Impact:** A total of 1025 adults and 673 Youth were provided with nutrition education. 100% of the children became familiar with the food pyramid and could identify all food groups, approximately 60% of the adults increased their intake of fruits and vegetables and 45% of the adults decreased their intake of refined carbohydrates. Participants attending the diabetes education classes were challenged to lower blood sugars, and approximately 70% decreased blood sugar levels by 30 points.
- c. **Funding:** Smith-Lever Funds/State Matching Funds
- d. **Scope:** State specific

Key Theme: Human Nutrition/"5 A Day"

- a. **Description:** The "5 A Day" program taught persons of various ages how to incorporate a combination of 5 fruits and vegetables a day into their daily eating habits. The benefits of reducing cardiovascular disease, some cancers, hypertension and obesity are discussed in the program. Games on identifying which foods are a part of the 5 A Day concepts were also played. There were "5 A Day" recipes given to the group as well as realistic goal setting. Body composition details were given and discussed with those persons who felt they wanted a personal assessment of their percent fat, percent lean weight, metabolic rate and weight loss goals.
- b. **Impact:** Twenty-one percent of the participants were consuming the recommended number of servings before the course was presented, with 100% of the participants stating that they were going to start to consume the recommended number of servings of fruits and vegetables daily. Ninety-one percent increased their knowledge on the importance of eating fruits and vegetables
- c. **Funding:** Smith-Lever Funds/State Matching Funds Post Secondary Education
- d. **Scope:** State Specific

Key Theme: Human Nutrition/“Healthy Eating for Educational Success”

- a. **Description:** The program was designed to introduce students to healthy food choices. The overall goal of the program was to assist DC public and chartered school children in choosing healthful foods in order to improve their health. Youth learn that the food they eat affects their growth, their level of physical activity and that they were responsible for what they eat. Youth were taught that by setting goals, making decisions to improve their health, selecting healthy food choices and eating healthy, would lead to educational success. The program was first implemented during Fall 2002 and has been presented to 150 students at four of the 145 DC schools: H.D. Woodson Senior High School, Browne Junior High School, Smothers Elementary School, and Ruth K. Webb Elementary School. Students are provided with a variety of hands-on methodologies for maximum learning and participation.
- b. **Impact:** The preliminary results showed students’ knowledge levels were significantly higher - 82.4% on the post-test as compared to 52.9% on the pre-test. Students were introduced to a variety of new foods. Handouts were provided for students to take home to their parents.
- c. **Funding:** Smith-Lever Funds/State Matching Funds
- d. **Scope:** State Specific

GOAL IV: TO ACHIEVE GREATER HARMONY (BALANCE) BETWEEN AGRICULTURE AND THE ENVIRONMENT

Overview:

Agriculture in the Classroom (AIRC) is designed to acquaint the students with the knowledge of the systems involved in agricultural production and its interaction with the environment. During the 2000-2001 school year, AIRC in D.C. entered into a partnership with the “TEACH US” (Teaching Educators Agriculture and Conservation Holistically for Urban Society). This program provided teachers an opportunity to apply for international traveling and gain a global perspective of agriculture. “TEACH US” also served as the motivational piece for teachers to participate in an after school program.

Additionally, the University’s Cooperative Extension Service, expanded the Project Learning Tree (PLT) into the Nation’s Capital. PLT is an international targeted initiative designed to provide urban educators and their pre-K-12 students with quality environmental awareness and community action projects. Existing national and local networks of PLT in the City will build partnerships with community leaders and organizations to implement a hands-on curriculum from the classroom out to the community environs. This project is funded by the U.S. Environmental Protection Agency through the Cooperative State Research, Education and Extension Service (CSREES) of the U.S. Department of Agriculture. Other collaborators include the Environmental Health Administration of the D.C. Department of Health, Wilson Senior High School and the American Forest Foundation.

The University’s Agricultural Experiment Station has played a very active role in “urban sustainable agriculture by utilizing techniques that employ recycling and composting materials for the enhancement of our land. The District of Columbia does not possess land space sufficient to dispose of its biosolids. When this organic material is composted, it acts as a nutrient rich fertilizer.

The recycling of biosolids and biosolids compost in large metropolitan areas has increased due to improved techniques used in processing wastewater. Biosolids recycling saves rapidly diminishing landfill space by promoting sustainable agriculture. It enhances gardening by supplying nutrient rich organic fertilizer used in home and community gardens. For years the Anacostia and Potomac Rivers have been plagued by pollution. Efforts have been undertaken to clean up the waterways for a more aesthetic presence. As a result of collaboration and joint research projects, research has been conducted to understand the effects of toxic sediment uptake on aquatic fauna and flora, which will help in preventing potential pollution hazards in the aquatic environment.

The DC Experiment Station's "Urban Sustainable Agriculture" is a project designed to serve all citizens of the District of Columbia and to interface with the Sustainable Agricultural Research and Extension Program (SARE) of the Northeast Region. Strong ties have been established with the Maryland Environmental Service that provides us with composted yard waste to use as a soil amendment for growing plants. The latest in this effort was a two-week trip to Senegal where the AES Project leader advised female farmers on how to use sustainable agricultural techniques in growing and increasing the yield vegetable crops. Copies of a report on this project are available upon request.

Key Theme: Sustainable Agriculture/AITC

- a. **Description:** During the FY 2002 school year, nine teachers were added to the AITC program commencing November 2001. Selected teachers attended three two and one -half hour workshops; two three hour workshops, that included the orientation and the field trip to the Agricultural Research Service (ARS); completed a six hour Internet Course and presented their teacher prepared units to each other. To date, through the teacher-training pilot and the first year of implementation, twenty-five classroom teachers, six Science Coordinators, three Art Specialists, one Counselor, and two Special Education Specialists, made it possible for approximately 2,265 urban students to become beneficiaries of AITC. Teachers who completed the AITC program were given the opportunity to gain global perspective through the "TEACH US" program by applying for International travel during the summer.
- b. **Impact:** The results of the teacher training and the integration of agriculture across the curriculum allowed an additional 309 students to become aware and experiment with agriculture in their lives. That increases our total number from 1681 students to 1,990. All teachers developed teacher prepared "Ag" units that would not conflict with the D.C. Schools Standards of Learning. In developing the units, they learned that there were many resources available to them through the use of the Internet and the Agricultural Research Service. These units were implemented and evaluated by the students before the end of the school year. During the 2002 summer, 6 DC educators traveled to South Africa and Costa Rico, gaining a global perspective on agriculture. 125 DC AITC teachers and students actively participated in the National Agriculture Day at the USDA, where they had a photo opt with USDA Secretary Ann M. Veneman. Being in the Nation's Capital has provided unique opportunities for our DC students and teachers to be actively involved with national and federal project activities.
- c. **Funding:** Smith-Lever/State Matching Funds
- d. **Scope:** State Specific

Key Theme: Recycling and Yard Waste/Composting/Project Learning Tree

- a. **Description:** The Project Learning Tree (PLT in the City) Initiative involves teachers and students in educational experiences that will enhance environmental literacy. One class of Early Childhood Education majors at the University of the District of Columbia joined a Junior High School and several Elementary Schools that had completed the six-hour educator workshop. Facilitator support for workshop training, resource materials, and expert personnel are provided “PLT in the City” by the DC Environmental Health Administration (DCEHA). New partnerships were formed with D.C. Recycling and Duke Ellington School of Arts in September 2002. These two partnerships enabled the program to reach more high school educator audiences in the D.C. community and gain resource personnel to serve as PLT facilitators. No direct funds were provided to the PLT in the City program from our partners, but each provided in-kind services and resource materials.
- b. **Impact:** Two (2) educator workshops were conducted during the period October 2001 – September 2002 that trained approximately 66 D.C. educators. Each of these workshops utilized the “whole-school” training strategy and included administrative staff, classroom teachers, teacher aids, janitorial staff, and D.C. Recycling Staff. Additionally, one of the 10 workshops was a pre-service teacher training at UDC for an Early Childhood Development methods course. A total of 29 “GreenWorks!” community action mini-grants were awarded to D.C. area educators who were trained through the PLT in the City program. The community action projects included school and community gardens, school campus improvements, recycling programs, and tree planting.
- c. **Funding:** Grant-Funded
- d. **Scope:** State Specific

Key Theme: Sustainable Agriculture

- a. **Description.** Molecular and cellular comparison have been made of nodules in cowpeas and soybeans produced by *V. unguiculata* in symbiosis with *Bradyrhizobium* that has been grown in biosolids. DNA analysis and light and electron microscopy was used to characterize the nodules. In this study conducted in our University’s laboratory, it was determined that interaction occurs between biosolids compost and nodules of *Bradyrhizobium* formed from symbiosis with *Vigna unguiculata*. We identified a *Bradyrhizobium* isolate obtained from biosolids amended soil at the University of the District of Columbia Muirkirk Research Farm in Beltsville, Maryland, not previously reported in the literature. This study revealed that the soil received either no biosolids application or 73 or 146 Mg/ha for three successive years. Thus, the isolates were named according to the concentration of biosolids applied to the soil and the isolate obtained from numbered cultures of all *Bradyrhizobium* nodules for the biosolids treatment. The study also examined the response of *Vigna unguiculata* to different quantities of biosolid compost treatments; a comparison of the new isolates with known strains of *Bradyrhizobium japonicum*; and a determination of the species and/or strain of *Bradyrhizobium* in the soil. Nodulation was examined at the cellular and molecular levels in *Vigna unguiculata* grown in symbiosis with *Bradyrhizobium* before and after growth in soils amended with biosolids compost. The two new species of *Bradyrhizobium* that had not previously been identified were found. These

new species nodulated both cowpea and soybean. A peer reviewed manuscript has recently been published on these data.

Publication: Cousin, Carolyn, Grant, Jean, Dixon, Freddie, Beyene, Desta, and van Berkum, Peter, 2002, Influence of Biosolids Compost on the Bradyrhizobial Genotypes Recovered from Cowpea and Soybean Nodules.

Presentation: “*Vigna unguiculata*: Nodulation by *Bradyrhizobium* After the Application of Biosolid Compost.” *John Wade, Jean Grant and Carolyn Cousin. University of the District of Columbia, 59TH Joint Meeting of NIS/BKX/BSP, Columbia, South Carolina, March 2002.

- b. **Impact.** The main beneficiaries of this research are the citizens of the District of Columbia. As a result of these studies, workshops will be conducted in collaboration with the Cooperative Extension Services at the University of the District of Columbia for the citizens of DC. Most city residents are interested in increasing the yield of the cowpea in their home gardens. These workshops will feature the most effective means of increasing *Bradyrhizobium* to use on cowpea plants to increase yield. Workshop participants will be given the opportunity to comment on ongoing activities in the station and recommend projects what will be beneficial to their individual needs.
- c. **Funding.** Match
- d. **Scope.** State specific

Key Theme: Sustainable Agriculture

- a. **Description.** The objective of this study is to determine the effects of bradyrhizobia genotypes isolated from soils amended with three annual applications of biosolids compost. Greenhouse studies are being conducted on the three *Bradyrhizobium* genotypes. They were inoculated before planting with either *Bradyrhizobium* sp.(cowpea-miscellany) or *Bradyrhizobium* genotypes IV or V. Genotypes IV and V (73-3 and 73-28) were chosen because they nodulate both soybean and cowpea. They also form effective nitrogen-fixing symbiosis with cowpea.
- b. **Impact.** There is little information available about the effect of biosolids compost treatment of soil on the symbioses of cowpea, since the microbial symbionts of cowpea may be different from those of soybean and clover. These plants are now growing in the greenhouse and will be investigated for the effectiveness of the three genotypes on nodulation, nitrogen fixation and yield.
- b. **Funding.** Match
- c. **Scope.** State specific

Key Theme: Water Quality

- a. **Description:** Anaerobic and aerobic sediments from the Anacostia River obtained from five different sites were spiked with both triphenyl- and tributyltins at pH conditions of 5, 7 and 9. The triphenyltins included: triphenyltin chloride (TPTCl), hydroxide (TPTOH) and acetate (TPTOAc). The tributyltins included: tributyltin chloride (TBTCl), *bis*-(tributyltin) oxide (TBTO) and tributyltin acetate (TBTOAc). These compounds have been shown to be toxic to various marine organisms as well as to the targeted species. The Mössbauer values for the different sites were also within experimental error of each other indicating that the speciation of the compounds is independent of the

characteristics of the sediments. The results indicated that both tributyltin and triphenyltin compounds interact with the sediments and are converted to their respective hydrated cations, i.e., the tributyltin cation and triphenyltin cation. A second study involving pH changes (5 to 9) was also conducted. Based on the observed Mössbauer parameters (quadrupole splitting; QS and isomer shift; IS), the pH changes did not affect the speciation of the tributyltins as was reported for some Chesapeake Bay sediments.

- b. **Impact:** A better understanding of the pollutants and their speciation products would provide individuals and government agencies interested in water quality and planning with knowledge of the potential hazards of triorganotin compounds. Additionally, the results of this study will provide individuals and government agencies interested in water quality and planning with knowledge of the potential hazards of triorganotin compounds. The citizens of the District of Columbia will benefit from this research, since these rivers play host to extensive recreational activities for the residents of the metropolitan area.

Publication: Speciation of Some Triorganotin Compounds in Sediments From the Washington, DC, Rivers: Anacostia and Potomac, Using Mössbauer Spectroscopy, G. Eng, D. Desta, E. Biba, X. Song and L. May, *Appl. Organomet*, 16, 1 (2002).

Presentations: The Study of the Speciation of Tributyltins and Triphenyltins in Anacostia River Sediments Using Mössbauer Spectroscopy, X. Song and G. Eng, 35th Middle Atlantic Regional Meeting of the American Chemical Society, Fairfax, VA, May, 2002.

- c. **Funding:** Match

- d. **Scope:** State specific

Key Theme: Water Quality

- a. **Description.** The Agricultural Experiment Station (AES) received a Dwight Eisenhower Professional Development Grant which enabled us to collaborate with Browne Junior High School, Terrell Junior High School, and P.R. Harris Educational Center in engaging students in the exploration, analysis and restoration of selected areas of the Anacostia River Watershed. Our program, the Water Environmental Studies in Schools (WESS) enabled teachers, from these schools, to engage in ten days of extensive training in water quality assessment and conservation during the summer. A ten-day follow-up summer program practicum was completed with students. Teachers implemented the program in school during the academic year. This program was designed to respond to the need for 1) environmental education in the schools; 2) teachers proficient in the writing of curriculum around the newly designed performance standards; and 3) innovative practices to improve math and science teaching and learning of teachers and students as expressed by DCPS administrators and teachers. The program's focus was the Anacostia River Watershed in which the students and teachers are residents. The goals of WESS provided for 1) training for the schools' teachers in math, science, technology, art and humanities within water environmental studies; 2) involvement of students in the same discipline areas as required for the restoration and conservation of the Anacostia River and its flora and fauna; and 3) the development of a plan that engages the total community in the conservation of the Anacostia Watershed.
- b. **Impact.** The WESS Teacher Training Institute was designed to empower teachers with the skills to introduce inner-city students to environmental monitoring, assessment of land and water, data analysis including background rationale, scientific terminology, laboratory exercises, research projects, mathematical calculations and some

specific laboratory and field techniques. This program provided a unique “hands-on” educational approach that engaged university professors, public school teachers, student mentors, and middle/junior high school students in the development of critical thinking and problem solving skills. We hope to continue this effort in hopes of establishing this as one of the courses required for science teachers.

- c. **Funding.** Match; Eisenhower Grant
- d. **Scope.** State specific

GOAL V: TO ENHANCE ECONOMIC OPPORTUNITIES AND THE QUALITY OF LIFE AMONG FAMILIES AND COMMUNITIES

Overview:

The majority of the programming efforts of the UDC Cooperative Extension Service were provided under this goal. The program staffs diligently pursued quality educational opportunities and resources for all of our District of Columbia customers, youth and adults alike. The Family and Consumer Sciences unit provided educational services in consumer education, financial management, elementary literacy tutoring services, parenting education and nutrition and health outreach education. Likewise, our Housing and Environment Program and our 4-H and Youth Development provided ongoing educational opportunities and assistance.

The goal of the Housing Environment Program (HEP) provided housing programs that enhanced the quality of life among families and communities through skills development and knowledge of basic home repairs, advance home repairs, and home indoor air quality.

Approximately 1875 youth participated in the 4-H/Youth Development Program in FY 2002. There was an additional 40,000 youth indirectly exposed to 4-H activities through program promotion on print and electronic media. The subject matter areas addressed in 4-H program delivery included leadership, and career development, horticulture and agriculture, science and technology, public speaking, media production, print and broadcast journalism, poetry and performing arts, and community service. Adult volunteer leaders led club members’ activities, which served to foster the youth-adult partnership sanctioned by the National 4-H Program. Other youth who were not members of organized clubs participated in 4-H-led activities and programs.

The Community Resource and Economic Development Unit offers programs under two broad titles called the Community Economic Development Program and the Center for Cooperatives. The program’s themes under which the activities are listed are Promoting Business Programs, Community Development, Leadership/Training and Development, and Youth Development/4-H.

AES staff members have worked with and are continuing to work with the District of Columbia’s School system in efforts to provide summer environmental educational programs for city youth. AES’s Research Associate collaborated with some District of Columbia Public School teachers in order to implement the **Water Environment Studies in Schools (WESS) Program**, for which the station received grant funding. The established curriculum for the program was consistent with DC Public Schools’ standards. The youth program was a summer academic and recreation program for eighty (80) students and designed to engage students in the exploration, analysis and the restoration

of selected areas of the Anacostia River Watershed. The program also included academics, recreation, arts and crafts, and a sports clinic.

Key Theme: Literacy/DC READS

- a. **Description:** The DC Reads Program was transferred from the UDC Office of Academic Affairs to the Community Outreach and Extension Services in January 2000. There has been a steady increase in the number of UDC student tutor volunteers and DC elementary participants since 2000. For FY 2002 there was a ten percent (10%) increase in children served, and the number of tutors providing services was increased from four (4) to twenty-eight (28). The program was enhanced by the diversity of the people providing services to include persons of African decent, Caucasians and retired seniors. DC Reads is our literacy program, utilizing tutors (usually college students) who are trained to work with children identified by our reading specialist to be in need of additional assistance in reading. Before entering the program children are assessed to find possible reading problems. Tutors travel daily to their prospective schools or after school programs and work with assigned students in a variety of fun and engaging activities designed to improve their reading skills. At the end of the semester children are reassessed to find out how much they improved their reading abilities.
- b. **Impact:** One hundred and twenty-eight children received assistance in reading, all of the children in the program progressed at varied levels. Tutors and program coordinators received training related to phonetic teaching and addressing behavior concerns of children with reading problems
- c. **Funding:** Smith-Lever/State Matching Funds/Sub-grant from Corporation for National and Community Service
- d. **Scope:** State Specific (sites currently in Ward 4 and Ward 8)

Key Theme: Workforce Preparation - Youth and Adult/LifeSmarts

- a. **Description:** LifeSmarts is a consumer education competition program for teens. The information format is a flexible classroom or group activity that teaches teens to be smart and responsible consumers and citizens. The content and competition questions focus on five key areas of consumer knowledge that teens need to know to function effectively in today's marketplace. The five areas are Personal Finance, Health and Safety, Environment, Technology, and Consumer Rights and Responsibilities
- b. **Impact:** Last year four local high school teams participated in the DC state competition. Funds were raised to assist them in traveling to Arlington, Virginia for the national competition.
- c. **Funding:** Smith-Lever/State Matching Funds/Private donations
- d. **Scope:** State Specific

Key Theme: Parenting Education

- a. **Description:** The Cooperative Extension Services (CES), Family and Consumer Sciences Unit offers a series of parenting classes designed to enhance parenting skills by exploring alternative methods of improving communication and interaction that strengthens families.

The UDC-CES Parenting program was taught in a six-week format using the “Prudential’s Positive Parenting” curriculum. The classes were taught at the University of the District of Columbia and Parent and Child Centers in the various wards of the District. The parents were taught and given a variety of new skills and techniques in the areas of effective communication, discipline, resolving conflicts, managing time and stress and understanding the developmental stages of their children.

- b. **Impact:** Approximately 180 parents participated in the parenting workshops at 5 different sites and demonstrated through active involvement, feedback, homework assignments and self-evaluation of the concepts and skills learned from the series. The workshop included “role-play” and “parent children interactions” sessions. As a result of attending these workshops, the parents gained valuable knowledge needed to promote good health and welfare for themselves and their children and learned how to help their children thrive and survive in the environment in which they live.
- c. **Source of Funding:** Smith-Lever Funds/State Matching Funds
- d. **Scope:** State Specific

Key Theme: Family Resource Management/HSFPP

- a. **Description:** The High School Financial Planning Program (HSFPP), a national program sponsored by the National Endowment for Financial Education (NEFE), was developed to provide fundamental financial concepts to young adults throughout the country. The University of the District of Columbia CES offered the HSFPP to 9-12 grade DC students to teach them financial skills for today and throughout their lifetime. This hands-on program was taught in a six lesson series. Some of the concepts learned were the difference between wants and needs; significance of goal setting; stages of the decision making process; saving and investing; budgeting; and managing use of credit effectively.
- b. **Impact:** In fiscal year 2002 nineteen (19) schools participated in the HSFPP, equipping 760 new students with financial knowledge and skills to help ensure their success as future consumers in the market place.
- c. **Source of Funding:** Smith Lever Funds/State Matching Funds/NEFE
- d. **Scope:** State Specific

Key Theme: Promoting Housing Programs

- a. **Description:** The Basic Home Repair Program provided District residents with basic knowledge and hands-on skills needed to make minor repairs in and around their home, such as wall, toilet tank, and leaky faucet repair, basic electricity skills, and use of basic tools. The Working Homeowner Program provided residents with advance knowledge and skills to perform more complicated repairs in and around their home such as installing door locks, installing a sinks, changing light fixtures, installing a toilets, installing ceramic tiles, and installing a garbage disposals. Our Healthy Indoor Air Quality Program provided District residents with information on how to reduce indoor air pollutants that can affect their family such as radon, secondhand smoke, carbon monoxide, mold, and mildew.
- b. **Impact:** Three thousand (3,000) District residents were introduced to the Basic Home Repair Program; two thousand five hundred (2,500) residents participated in workshops. Of the 2,500 residents who participated in workshops, eighty-five percent (2,125) actually used

the information and skills learned in workshops to make minor repairs around their homes. This resulted in an approximated net savings of \$175.00 per household (a total estimate of savings of \$250,000). More than five hundred (500) District residents were introduced to the Working Homeowner Program, one hundred sixteen (116) residents participated in workshops, ninety-eight percent (114) actually used skills learned in workshops, which resulted in approximate savings of \$350-\$450 per household in repair cost (a total estimated savings of over 445,000).

- c. **Funding:** Smith Lever/State Matching Funds
- d. **Scope:** State Specific

Key Theme: Promoting Business Programs

- a. **Description:** The Community Resource and Economic Development (CRED) unit held or was a major participant in 40 training/information sessions. Twenty-three (23) groups served a total of 10,300 persons. More than 4000 letters were sent out about program activities and there were 3 major media events informing District residents about our programs.
- b. **Impact:** 16 small businesses received direct technical assistance which saved the jobs of 10 persons.
- c. **Funding:** Smith-Lever/State Match
- d. **Scope:** State Specific

Key Theme: Community Development

- a. **Description:** The CRED unit collaborated with over 240 groups, getting our message and services out to underserved populations. CRED publicized UDC/COES by providing program offerings to the Hispanic/Latino Council; promoting and exhibiting UDC/COES services at the DC Career/Government Services Day, which were attended by more than 29,000 persons. Educational services were provided to faith-based groups serving 2500 Lorton Inmates and their families in acclimating them to the work environment, and assisted with contacting participating DC Credit Unions to encourage them to expand their services to low income communities. The CRED also participated in three of the Peoples' Council Energy Awareness Day for over 10,000 persons, and in three economic development task forces for low income neighborhoods.
- b. **Impact:** Forty low-income individuals received opportunities to buy a house; 50 individuals had their income taxes prepared and received back more than \$50,000.00; 2 public school groups submitted 13 mini-proposals for grant to expand their school's energy awareness projects.
- c. **Funding:** Smith-Lever/State Match
- d. **Scope:** State Specific

Key Theme: Leadership/Training and Development

- a. **Description:** The development of the CES Center for Cooperatives and the C.H. Kirkman, Jr. Resource Library for the Study of Cooperatives was a major achievement for CES, DC residents and the University at large. From the Center's early beginnings, it has grown into an aggressive program that trained and provided technical assistance to the DC

Cooperatives, aspiring cooperatives and businesses such as the boards of Southern Homes and Gardens Cooperative and Community Harvest, to which soliciting resources for the Library from multiple groups including the Sunkist Growers Cooperative.

- b. **Impact:** Nine trained Board of Directors and 34 Shareholders at the Southern Homes and Gardens Coop helped a group of former public housing residents to become capable leaders and responsible homeowners. The C.H. Kirkman, Jr. Resource Library was established for the Study of Cooperatives.
- c. **Funding:** Smith-Lever/State Match/Kirkman Endowment
- d. **Scope:** State Specific

Key Theme: 4-H/Youth Development

- a. **Description:** Through collaborations with the Congress of National Black Churches, Browne JHS, Urban Ed Youth Technology Center, Ideal Public Chartered Public School, our CES programs of LifeSmarts and Ag in the Classroom, provided urban youth with Career Development sessions. The CRED served over 1,000 youth describing major career areas.
- b. **Impact:** 250 youth received career development and age-appropriate books & resource materials. One hundred percent (300) of “Read & Rise” participants who scored one grade level above their previous performance on the G-9 Test
- c. **Funding:** Smith-Lever/State Match
- d. **Scope:** State Specific

Key Theme: 4-H/Youth Development

- a. **Descriptions:** The 4-H program had six active clubs in FY 2002. There were approximately 300 4-H club members, 80 of who belong to one club- the Rough Rider 4-H Communications Society of Roosevelt Senior High School. Each club member was exposed to leadership and career development through club activities, which included career fairs, career day activities, and through the curriculum offered as club projects and/or activities. The 4-H National Youth Invitational Summit held July 18th-21st, 2002, provided and additional 275 youth with similar opportunities, increasing their knowledge level of leadership, public speaking and communications, advocacy, and service learning.
 - **Leadership and Career Development.** The UDC 4-H National Youth Invitational Summit was the District of Columbia’s celebration event for the centennial anniversary of 4-H and was co-planned and led by 4-H club members. This event taught youth, ages 12-18, how to advocate for and develop their own agenda for gaining equal access to a quality education. The youth partnered in a community service project to assemble and distribute 400 care packages of hotel toiletries to homeless persons through the Mitch Snyder Homeless Shelter.
 - **Public Speaking.** Approximately 25,000 youth citywide were exposed to public speaking activities sponsored by UDC 4-H efforts, through media promotion, local and national programs. There were 175 youth who directly engaged in public speaking 4-H activities.
 - **Science and Technology.** Approximately 1,200 youth, citywide, were exposed to 4-H activities with a science and technology focus. This was accomplished through

citywide and school science fairs, service learning projects, a video series on teen health, produced and written by Roosevelt Senior High 4-H Club members.

- **The Horticulture and Agriculture.** Approximately 100 of all city 4-H club members participated in agricultural and horticultural club activities, which included community gardens, community gleaning, vegetable and herb gardening. Our first small animal club in the city started the embryology program with the 4-H Club at John Eaton Elementary School where they completed the 4-H Embryology Program and donated the baby chicks hatched from the program to a local farm. They also cared for a hamster, pet fish and a bird.
- **Community Service.** Three hundred seventy-five youth belonging to organized after-school 4-H Clubs participated in various community service and service learning projects. These projects included, but were not limited to: “Glories Happy Hats;” feeding of the homeless; reading to the elderly; collecting register tapes for their schools to receive computers; clothing drives; tutoring; “Way too Cool to Smoke” Smoking Prevention and Cessation Project; Easter basket distribution to Senior Citizens; Teen Health News, a video series developed by high school 4-Hers for their peers, used as a teaching tool to address teen sexuality, teen pregnancy, and other risky teen health behavior; and, “Cyber Seniors-Cyber Teens.”
- **National 4-H Congress.** A delegation of six, 4-Hers attended the National 4-H Congress in Atlanta this year. The District of Columbia 4-H youth were selected as delegates as a result of their leadership ability and community service records in their 4-H Club. They are the charter members of a new group assembled in the District, the City-wide 4-H Council of the District of Columbia, where other 4-H clubs will be represented for the purpose of setting policy and planning projects. These youth will represent the city-wide 4-H program locally and nationally as 4-H Ambassadors.

- b. **Impact:** The four-day UDC 4-H National Youth Invitational Summit had 275 highly participatory youth and adults. Youth made written commitment pledges to take the knowledge gained from the summit to their schools and communities to help improve educational opportunities for others. Thirty youth served as workshop facilitators, introducers of speakers and provided summation of workshops, as well as promoters of the Summit on local television and radio programs.

The Rough Rider 4-H Communications Society led 4-H public speaking projects on abstinence, prevention of animal cruelty, youth leadership. On behalf of the “Way to Cool to Smoke” program, 10 club members were trained peer educators presenting to 125 pre-teens. Eight 4-H club members demonstrated an increased knowledge of science and technology and its’ relationship to communications and broadcasting through their involvement in communications learning experiences in video production and the 4-H newsletter the “Clover Word.” All of the forty John Eaton 4-H Club members increased their knowledge of animal husbandry, science and diversity. They also improved their knowledge of the relationship of agriculture to food on their tables. An additional fifty percent (50%) of the 4-Hers in other clubs demonstrated increased skills in the area of community beautification and nutritional education. The DC 4-H youth who represented the District of Columbia at the National 4-H Congress were among 1,500 youth, nationwide who also represented their states, at this conference demonstrating leadership skills gained through 4-H.

- c. **Funding:** Smith-Lever/State Match/DCPS/Donations
- d. **Scope:** State Specific

Key Theme: Youth Development

- a. **Description.** The Children’ Summer Program sponsored by UDC AES and P.R. Harris Educational Center during the summer of 2002 served 96 boys and girls, residents of the neighborhood located around Livingston Rd and Southern Avenue in Southeast. P.R. Harris is located on this block. The District of Columbia Children and Youth Investment Trust Corporation (“CYITC”) awarded the AES a grant to conduct this youth and community project. A highly successful summer program for children at P.R. Harris Educational Center (housed at Hart Junior High School) was conducted during the summer of 2002. This was a quality program of academic enrichment, athletics, arts and community service for children between the ages of 5 and 18. The program was five days per week, with a minimum of six hours programming each day, for eight weeks and had a daily number of 80 children to be served. Children spent part of a day in an environmental activity and followed it with an art activity that allowed them to express their environmental information in a fun form. For example, one lesson was conducted at a nearby creek. Later, for art, the children designed an African dance to express their attitude about the creek. Their expression was one of wonder. They had never thought the creek had anything to learn about and they were looking forward to telling their parents about it. All children had basketball part of every day. The basketball leaders were certified physical education teachers. Everyone went swimming once a week.
- b. **Impact:** Without UDC AES taking the responsibility to request funding for this program, these children would not have had **an organized, supervised program for most of the summer.** The program hired five program leaders, and contracted with a neighborhood entrepreneur to bus the children to the pool.
- c. **Funding:** Match; Children and Youth Grant
- d. **Scope:** State specific

B. Stakeholder Input Process

The Cooperative Extension Service Program Units utilize various stakeholder groups to ascertain the desires, issues, and concerns of our District customers. We have been able to greatly expand our programming services to a greater diversity of our city population. Our programs and activities are customer driven. Through our advisory committees, program colleagues and agency collaborators, such as the DC Master Gardeners; the Institute of Gerontology, DC Public Schools, DC Department of Parks and Recreation, DC Health and Human Services, “TEAM After-School Program”; the Chinese Community Center partners; 4-H Volunteer Leaders and the City-wide Youth Council; private and public housing community associations and organizations; and, the business and faith-based communities, we have enhanced our program efforts and offerings. Many of our programs/activities are custom fitted for the specific customer group and the requests received (i.e., Asian children, Jewish seniors, diabetic youth or adults, HIV nutrition needs, homeless diabetics, Hispanic and African American children with high cholesterol).

Based on review of AES's Stakeholders' Questionnaire and verbal contacts with city residents, it was decided that there was a need to identify and address critical issues associated with the District of Columbia. Responses from city residents centered around the Mayor's priorities, with emphasis on the first three. Those priorities are (1) Strengthening Children, Youth, Families, and Elders; (2) Building Sustainable Neighborhoods; (3) Promoting Economic Development; (4) Making Government Work; and (5) Enhancing Unity of Purpose and Democracy. The Stakeholders' Questionnaire is undergoing revision to target specific critical areas. A mail out will be conducted and returned Questionnaires will be reviewed for possible formulation of research, extension and integrated programs to address some of the issues. The Advisory Board will assist us in categorizing, ranking and selecting the critical issues that can be placed in one of the five major goals of the Plan of Work.

C. Program Review Process

Research

Our Program Review process basically remains the same. Each year the Director reviews the progress of each research project to ensure that researchers are accomplishing their objectives. Modifications were made to move in the direction of implementing research and integrated activities based on the Mayor's priorities for the District of Columbia. When funds become available to solicit for "Request for Proposals" a Peer Review panel is selected to review proposals. The Peer Review consisted of selected representatives from the Department of Biological and Environmental Sciences, the Department of Chemistry, the Department of Physics, the Cooperative Extension Service, and from the community, state, and local government. The Peer Review committee will be expanded to include members from our other Colleges to reflect solicitations of research projects and integrated activities that fall under the priority categories of the Mayor. The Peer Review criteria includes, but limited to:

- Knowledge base of the research
- Adequacy of procedures and experiment to meet the objectives
- Feasibility of accomplishing the objectives
- Scientific merit of the proposed research
- Familiarity with work of others related to the proposal
- Appropriate budget for proposed research
- Budget justification

The Review Panel will then make the following recommendations: Approved; Approved with Comment; Conditionally Approved; and Deferred or Rejected. The recommendations are defined as follows:

1. Approved. The proposed project has met established criteria and approved with no changes.

2. Approved with Comment. The proposed project has met established criteria and will be approved after some identified changes have been made.
3. Conditional Approval. The proposed project has met some of the established criteria and has been recognized by the panel to be of significant worth, but there are some serious deficiencies that must be corrected before approval can be granted. When corrections are made, the proposal is returned to the Director, who then forwards it back to the Review Panel. Approval is given only when all identified issues have been resolved to the panel's satisfaction.
4. Deferred or Rejected. The proposal has not met one or more of the established criteria and raising serious doubt as to the suitability of the proposed project. It is returned to the Director for the return to the author. Reconsideration of the proposal would require a resubmission through the Director.

Once a proposal has been approved, it is then forwarded to USDA to be further reviewed by a Scientific Peer Review panel. The scientific peer review is an evaluation performed by experts in the field with scientific knowledge and technical skills to conduct the proposed work, whereby the technical quality and relevance to program goals are assessed. If approved, USDA notifies the Director of the approval and the length of time the project has been approved. It is up to the Director to determine the budget for the approved project, based on funding.

Extension

Each of the four Extension organizational areas: Environment and Natural Resources; Community Resources and Economic Development; Family and Consumer Sciences; and 4-H & Youth Development, and the several programs within these areas have developed various formal and informal, qualitative and quantitative means to evaluate programs which include:

- Self-administered questionnaires
- Pre-tests and post-tests
- Written Customer Evaluations
- Written Communications
- Oral Communications
- Health Assessments
- Demonstrated Skills Acquired
- Participant Developed Curricula
- Observations
- Reading Grade-level Achieved
- Increased Enrollments
- Requests for Programming Services
- Interviews
- Staff Performance Appraisals

D. Evaluation of the Success of Multi and Joint Activities

1. The multi and joint planned programs will focus on critical strategic issues for the DC residents and the states with which we worked to address urban regional issues. The DC Research Station and the DC Extension Service continue to move in the direction of conducting research, programs, activities, and services that residents identify as critical issues and concerns based on the Mayor's priorities. In addition, the stakeholders serving on the CES/AES Leadership Advisory Council will assist in determining which issues can be supported by AES/CES and effectively address the needs of the people in their Ward.
2. The majority of our programs continue to address the needs of the underserved and underrepresented, particularly African-Americans.
3. The multistate and joint programs have strengthened and expanded to new clientele and efforts will be made to continue to have a significant impact.
4. AES/CES multistate and joint programs are committed to provide continuous quality improvement.

E. Multistate Extension Activities

This section is not applicable for the University of the District of Columbia according to the requirements of AREERA section 105.

F. Integrated Research and Extension Activities

GOAL II: A SAFE AND SECURE FOOD AND FIBER SYSTEM

Key Theme: Food Quality

- a. **Description** Freshly cut honeydew chunks were dipped for 30 seconds in a solution containing 100 uL/L sodium hypochlorite (ClO) without or with a 40 mM concentration of calcium propionate, Ca amino acid chelate formulation (Ca chelate), calcium chloride, or not treated. Respiration and ethylene production rates, firmness, translucency, microbiological and sensory characteristics, surface color, volatile abundance, and tissue calcium content were evaluated during 7 days at 10C. Nontreated samples developed the highest respiration and ethylene production rates during storage, followed by samples dipped in ClO, ClO+CaCl₂ or ClO+Ca chelate, and ClO+Ca propionate. Calcium salt and chelate treatments more than doubled tissue Ca content and inhibited changes in melon firmness, surface color, and the development of tissue translucency during storage. Treatment with ClO alone increased tissue translucency development, but inhibited surface microbial development. Microbial development was highest on nontreated melon samples and lowest on ClO+Ca propionate-treated samples. Total quality associated volatile abundance increased throughout storage and was higher in ClO+Ca propionate-treated samples than in other treated and nontreated samples. No sensorial preference was observed by consumer panels among ClO, ClO+Ca propionate, or ClO+Ca chelate-treated samples. Several papers have been generated jointly for publication. The most recent article is "**Sanitary Dips in**

Solution Containing Calcium Maintain Quality and Shelf Stability of Honeydew Chunks” which has been submitted for publication.

- b. **Impact.** The result indicated that a sanitary dip with Ca is a better alternative to a sanitary dip alone for quality maintenance and shelf life stability of fresh-cut honeydew melon tissue. Research findings have been recommended to fresh-cut industry where the benefits will be practiced and have an impact on the longer shelf life of freshly cut fruits.
- c. **Funding.** Hatch
- d. **Scope.** Multistate; Integrated Research and Extension

GOAL III: A HEALTHY, WELL-NOURISHED POPULATION

Key Theme: Human Health

- a. **Description:** The Nutrition, Diet and Health program is designed to provide families and individuals with the tools, techniques and knowledge necessary to make decisions to help meet the Dietary Guidelines for Americans, to improve human health and nutrition by reducing their risk of chronic disease, and to practice preventive health measures. The Agricultural Experiment Station and Cooperative Extension Service sponsor an annual fair for District, Federal, and community stakeholders. The fair provides an opportunity for participants to receive research and program overviews; view exhibits and healthy food preparation demonstrations; receive nutritional recipes and research literature, experience hands-on herbal gardening activities; and tour gardening research plots.
- b. **Impact:** The 250 participates are impacted daily with safer handling of foods and proper cooking methods that ensure maximum nutritional value from foods. Further, it is estimated that 33% of these participants will develop a desired change in lifestyle practices to include low-fat cooking, cooking with herbs, adding more fiber in the diet, and the use of soy products. Awareness of extension and research program offerings incites community involvement and enhances the relationship between AES, CES, and stakeholders. It is estimated that 50% of the participants will share the information they received with family, friends, and co-workers, thus impacting an unlimited number of District residents with improved nutrition, food safety, diet, and participation in community programs/projects.
- c. **Funding:** Hatch, Smith-Lever
- d. **Scope:** Integrated Research and Extension

Key Theme: Human Nutrition

- a. **Description.** The focus of this study and the associated regional research activities is to improve the methods of dietary assessment in the elderly. Data from these studies have clear implications for future research on diet and nutritional risk and exemplify the importance of food intake patterns as well as nutrient intake data in characterizing nutritional risk. Many elderly Americans are at risk of malnutrition related to health conditions. As the American public grows older, a topic of major concern has been the quality of life of the elderly citizens. Research on diet and health and the ability to identify individuals and groups at risk of diet related illnesses depend on the ability to measure nutrient intake. Identification of components in food that offer protection is important. Assessment of nutritional status as related to low fruit and vegetable intake, by use of

- biochemical markers and dietary assessment tools, coordinated with appropriate intervention and education strategies is imperative for decreasing disease risk in the elderly.
- b. **Impact.** Quantitative and qualitative associations among identifiable behaviors and dietary choices enable construction of profiles of individuals at nutritional risk. These profiles provide indicators of nutritional risk which will inform interventions designed to modify behaviors. Dietary choices ultimately determine nutrient intake and health status. As preparation for intervention, connections among *behavior and attitude indicators, nutritional and dietary implications, and resulting health consequences* have been summarized and are being distributed to senior citizens organizations in the District of Columbia.
 - c. **Funding.** Hatch; Match
 - d. **Scope.** Multistate; Integrated Research and Extension

GOAL IV: AN AGRICULTURAL SYSTEM WHICH PROTECTS NATURAL RESOURCES AND THE ENVIRONMENT

Key Theme: Integrated Pest Management in Urban Gardens

- a. **Description.** The I-R4 program is an interregional project, which deals with the testing, recommending and monitoring the use of pesticides for minor use crops (vegetables and ornamentals). The State Liaison Representative (SLR) for the District of Columbia is a DC Experiment Station Project leader. The I-R4 project has been closely allied with the sustainable agriculture project in the area of integrated pest management. The project leader works closely with the University of Maryland in monitoring pesticide application in District of Columbia. Such monitoring includes evaluating field plots to determine the degree of disease and insect found and methods that are being used to control them. Consultations in this area are done through the UDC cooperative Extension Service, the University of Maryland and the USDA-ARS pest control unit in Beltsville, Maryland.
- b. **Impact.** Urban gardeners have benefited from the use of cultural techniques such as using composted waste as soil amendments instead of commercial fertilizers, crop rotation and resistant plant varieties, instead of chemical pesticides to control weeds, disease and insects. These techniques are being practiced in urban areas to grow flowers and vegetables. This project, along with the sustainable agricultural program, has generated new interest in the area of integrated pest management.
- c. **Funding.** Match
- d. **Scope.** Multistate; Integrated Research and Extension

Key Theme: Sustainable Agriculture

- a. **Description:** The main objective of this project was to facilitate the transfer of low-input sustainable agricultural vegetable crop production system for urban gardeners in the District of Columbia. Since this project was designed to serve all the citizens of the District of Columbia and to interface with the Sustainable Agricultural Program of the Northeast Region (SARE), several linkages were established within the University, the DC metropolitan area, the neighboring north eastern states and to a certain extent to national and international levels. Various university research and training programs at the University are

involved in the outreach activities of this sustainable agricultural research and outreach program. The Agricultural Experiment Station's Project Leader interacted directly with the Washington Metropolitan Community in helping to establish vegetable gardens, providing instructions on sustainable agriculture techniques and generally acting as a resource person for solving crop production problems. The project leader has also established strong ties with the Maryland Environmental Service that provided us with composted yard waste that we used as a soil amendment for growing plants. A close relation has been established with the USDA-Agricultural Research Service (ARS) Plant Institute in Beltsville, Maryland. The project leader acts as the Program Development Program Leader (PDP) for the District of Columbia and participates in SARE programmatic discussions at regional meetings. The Project Leader's latest involvement was a two-week trip to Senegal where he advised female farmers on how to use sustainable agricultural techniques in growing vegetable. Literature generated from this project

Fact Sheets

- James R. Allen, 2002. Vegetable Fall Gardening in the District of Columbia. Info Doc. 1 (4)

Paper Presentation

- Allen, James R. 2002: Composted Waste as Soil Amendments in Urban Gardening. National Annual SARE Conf. Research Triangle, Raleigh, NC

- b. **Impact:** This project has generated interest in the urban gardening in the District of Columbia. Attendance at workshops and field days has increased. More gardeners are getting their soils tested and the Master Gardeners' classes, at the University, have also shown increase in enrollment.
- c. **Funding:** Match
- d. **Scope:** Multistate

Key Theme: Soil Testing

- a. **Description:** As an added service to the urban gardeners of the District of Columbia, the Agricultural Experiment Station in cooperation with the Cooperative Extension Service has established a laboratory to conduct limited soil testing. Soil samples submitted by gardeners are tested for pH, magnesium, potassium, organic matter percentage and heavy metals levels.
- b. **Impact:** Since the establishment of the laboratory there is an increase in the awareness of soil fertility in urban gardening. More gardeners are having their soil tested and they are generally taking more care in adding soil amendments to their garden plots.
- c. **Funding:** Hatch; Match
- d. **Scope:** Integrated Research and Extension

Key Theme: Urban Gardening

- a. **Description:** There has been a growing interest in Urban Gardening by city residents of the District of Columbia, particularly among the poor and the aged who produce vegetables to augment their diets and professionals who do gardening for recreational purposes. The AES urban gardening project was designed to teach these gardeners how to increase productivity

in their gardens in an environmentally friendly manner (low chemical applications to avoid environmental pollution).

- b. **Impact:** Increased attendance at field days and training seminars. Master gardeners are more knowledgeable in using proper methods for producing healthy nutritious vegetables.
- c. **Funding:** Match
- d. **Scope:** State specific

GOAL V: ENHANCE ECONOMIC OPPORTUNITY AND QUALITY OF LIFE FOR AMERICANS

Key Theme: Community Development

- a. **Description.** The ADOPT-A-BLOCK Program is a partnership with the University of the District of Columbia Community Outreach and Extension Services (COES), Keep Washington DC Beautiful (KWB), East of the River Community Development Corporation (ERCDC) and Office of the Clean City Coordinator (CCC). The program is a beautification and litter control program designed to directly engage businesses, organizations, and residents of SE communities in beautification and cleanup campaigns along the Martin Luther King, Jr. Avenue (MLK) / South Capitol Street corridor. “Polishing the Crown Jewel” is a program conducted by the Office of the Mayor, Office of the Clean City Coordinator to engage businesses, associations, non-profits, community, faith and civic organizations, and individuals in keeping the District of Columbia clean. These two programs are working to make a difference in the District of Columbia and in our neighborhoods by establishing a cleaner and more beautiful environment to live, work, and play.
- b. **Impact.** ADOPT-A-BLOCK has made a noticeable difference in the affected neighborhoods. The MLK corridor was enhanced by flowers and garden plots which helped to change the ambience as flowers and beautifications projects are inclined to do. School children have been actively involved in the beautification of their school grounds. Teachers are able to integrate the KEEP AMERICA BEAUTIFUL, INC. easy to use “WASTE IN PLACE” curriculum into their regular classroom program without having to do extensive rewrites of lesson plans.. Merchants and residents were encouraged to take a more proactive role in the care and upkeep of their neighborhoods and responded to the challenge. Finally, the school year will culminate in a poster contest and award of US Savings Bonds to the winners from each of the six schools. ADOPT-A-BLOCK can and does work to the benefit of neighborhoods as shown through the public-private partnership with community residents, local businesses and organizations, educational institutions and government all working together and ultimately benefiting from this comprehensive approach.
- c. **Funding.** Hatch; Private
- d. **Scope.** Integrated Research and Extension

**MULTISTATE EXTENSION ACTIVITIES AND
INTEGRATED ACTIVITIES
FORM CSREES-REPT**

Appendix C

U.S. Department of Agriculture
 Cooperative State Research, Education, and Extension Service
 Supplement to the Annual Report of Accomplishments and Results
 Multistate Extension Activities and Integrated Activities
 (Attach Brief Summaries)

Institution University of the District of Columbia
 State District of Columbia

Check one: Multistate Extension Activities
 Integrated Activities (Hatch Act Funds)
 Integrated Activities (Smith-Lever Act Funds)

Title of Planned Program/Activity	Actual Expenditures				
	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004
Nutritional Risk			\$3,334		
Post Harvest Physiology of Fruits			2,233		
Urban Gardening			3,333		
Sustainable Agricultural Techniques			27,224		
Integrated Pest Management in Urban Gardens			2,500		
Soil Testing			30,334		
Adopt-A-Block			10,223		
Community Team Building			6,532		
Total			\$85,713		

U.S. Department of Agriculture
 Cooperative State Research, Education, and Extension Service
 Supplement to the Annual Report of Accomplishments and Results
 Multistate Extension Activities and Integrated Activities
 (Attach Brief Summaries)

Institution UNIVERSITY OF THE DISTRICT OF COLUMBIA
 State DISTRICT OF COLUMBIA

Check one: Multistate Extension Activities
 Integrated Activities (Hatch Act Funds)
 Integrated Activities (Smith-Lever Act Funds)

Title of Planned Program/Activity	Actual Expenditures				
	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004
Nutritional Risk			52,076		
Post-Harvest Physiology of Fruits			45,483		
General Administration			3,650		
Urban Gardening			13,805		
Sustainable Agricultural Techniques			49,699		
Integrated Pest Management			13,805		
Soil Testing			5,522		
Adopt-A-Block			47,536		
Total			231,576		

Form CSREES-REPT (2/00)

Director _____ Date _____

UNIVERSITY OF THE DISTRICT OF COLUMBIA

Cooperative Extension Service

Agricultural Experiment Station

FY 2002 Civil Rights Accomplishment
Report

FY 2002 Civil Rights Accomplishment Report

Equal Employment Opportunity

Equal Employment Opportunity continues to be a priority of the Agricultural Experiment Station (AES) and the Cooperative Extension Service (CES) at the University of the District of Columbia. During FY 2002, we did not hire new staffs. However, when there is a need for new staffs, AES and CES will maintain its practice of employing personnel based on qualifications and recognize merit through a systematic annual performance appraisal process.

Staff Development

AES and CES strives to achieve greater efficiency and effectiveness in research and extension programs and activities by recognizing the importance of staff development and training skills as it relates to improving staff performance. Individual Development Plans (IDP) are prepared for employees in need of formal or informal training providing employees with a reasonable opportunity to improve and develop skills via coaching, mentoring, training based on identified needs, enrolling in courses (credit or non-credit), an/or career development seminars. Staff members are informed that they can request seminars, workshops, skills development programs and/or training they feel will improve or enhance their job performance.

Several CES staff members are enrolled in credit & non-credit courses at the University. Three professional Extension Agents are pursuing Master Degrees and two are pursuing Bachelor Degrees

The Staff Development and Training Committee continue to ensure that all staff members are provided an opportunity for training. This committee is comprised of staff from the Division of Community Outreach and Extension Services, which includes the Agricultural Experiment Station and the Cooperative Extension Service.

Program Delivery

Ongoing efforts have been made to continue to collaborate and establish partnerships with establishments in the community, and to promote and develop new research initiative, training and educational programs and activities. AES has become a partner with the Chesapeake Watershed Cooperative Ecosystems Studies Unit, the National Network of Cooperative Research Units, the National Tree Trust, Keep Washington, DC Beautiful, Inc. (KWB), East of the River Community Development Corporation (ERCDC), and the Executive Office of the Mayor's Office Clean City Coordinator (CCC).

AES's DC Metro Community Nursery served as a model for community nurseries. Municipalities, counties, volunteer organizations, schools and other groups were invited to plant trees on public lands.

AES was very successful in conducting a summer teacher training program for the District of Columbia Public School teachers. This program provided a unique "hands-on" educational

approach that engaged university professors, public school teachers, student mentors, and middle/junior high school students in the development of critical thinking and problem solving skills.

A summer program for children at P.R. Harris Educational Center included a program designed to provide academic enrichment, athletics, arts and community service for children between the ages of 5 and 18 for five days per week with a minimum of six hours programming each day for eight weeks and servicing 80 children daily.

THE ADOPT-A-BLOCK program provided beautification and litter prevention services along the Martin Luther King, Jr. Avenue, S.E. Washington, D.C. (MLK) corridor.

CES made concerted efforts to offer and deliver programs to our underserved, at-risk, underrepresented and other special needs groups. Programs were held in each of the quadrants of the city, with an increase of 100% in our Hispanic and Chinese communities. Our Caucasian and elderly customers were served through our Nutrition and Health, Consumer and Finance, Basic Home Repair and Master Gardening programs. Attempts were made to provide support for our special needs groups by holding programs and activities in accessible locations and by using translators to assist with program delivery as needed. Our collaborative efforts with public and private organizations, groups and agencies allowed us to reach more of our customers of diverse backgrounds and needs.

Programs were delivered through workshops, seminars, conferences, e-mail, conference calls, site assessments, individual and small group consultations, print & electronic means, and one-on-one contacts in person or by phone, as well as, at our annual, “Quality of Life Day” held at our Research farm site.

Public Notification

Photographs and graphics in our brochures, fact sheets, newsletters, into docs, promotional literature, educational materials, program announcements and station reports demonstrated diversity in culture, gender, age, race and disability. Equal opportunity and non-discrimination statements were placed on all educational materials released to the public.

In an effort to further reach our diverse population, several publications were issued through mass mailings. Efforts were made to conduct AES/CES research and programs in barrier free buildings to accommodate customers with physical disabilities.

The USDA poster, “...And Justice For All,” remains prominently displayed in all offices and facilities used by the Agricultural Experiment Station and Cooperative Extension Service.

Public notification for extension programming was provided through national & local newspaper and magazine articles; featured interviews on radio and television; public exhibits; through electronic websites and in print using fact sheets, brochures, and flyers. Each program unit developed brochures for publicity to customers and the general public. Flyers and other

announcements were used at sites and other public locations (i.e., public libraries) and have been translated for our Hispanic and Chinese communities.

Civil Rights Training

Civil Rights Training continues to be an important part of our staff development training efforts. The EEO Monitor conducted the following Civil Rights Training sessions:

- Title IV of the Civil Rights Action of 1964
- Title VII of the Civil Rights Act of 1964 (amended)
- Title IX of the Education Amendment of 1972

The purpose of the training was to provide a basic awareness of the laws and policies of Civil Rights and to provide an understanding of the needs and behaviors required to treat all customers and employees fairly and equitably, with dignity and respect.

Civil Rights Training is part of new employee's orientation, and is mandatory for all staff of the Division of Community Outreach and Extension Services.

On-Site Civil Rights Compliance Reviews

During this reporting period, an On-Site Civil Rights Compliance Review was conducted for both the Agricultural Experiment Station and the Cooperative Extension Service. The purpose of the review was to determine the extent to which Extension and Research programs were in compliance with Title VI of the Civil Rights Act of 1964, Title IX of the Education Amendment of 1982, and other applicable Civil Rights rules and regulations.

In addition, office records, statistical data including potential and actual participation in programs; plans of work, annual reports; membership and attendance records; planning process; collection and use of racial participation data; office facilities and arrangements; and staff training opportunities and other related management procedures were examined.

The results of the Civil Rights Compliance Review were as follows:

- Staffs used variety of mass media outlets, i.e., radio, TV and newspaper announcements to promote Extension and Research activities.
- Staffs were familiar with the applicable civil rights laws, rules, regulations and instructions.
- Staffs have knowledge of the program and employment complaint procedures and are adequately informing staff leaders, clientele, organizations, agencies and the general public or the correct procedures to follow for filing program and/or employment complaints.
- Staffs were given equal opportunity to participate in staff development and training opportunities in accordance with their work assignments.
- Planning committees have balanced membership based on race, national origin and gender of the potential clientele in the areas they represent.
- Mailing lists included racial/ethnic minorities and both sexes.
- Office spaces and related facilities were assigned to all staff on a nondiscriminatory basis.
- Appropriate actions have been taken to eliminate barriers for people with disabilities, and programs meet requirements for physical accessibility for mobility impaired persons.

- Specific research is being specifically targeted to reach and meet the needs of racial minority and female clientele.
- Staffs used the proper procedures to determine if private groups and organizations that requested extension services were in compliance with EEO regulations before services were rendered.

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Clientele Contacts by Racial-Ethnic Group

Group	White not of Hispanic Origin	Black not of Hispanic Origin	Native American /Alaskan	Hispanic	Asian or Pacific Islander	Total
2002 Projected	(145,014) 27.0%	(327,081) 61.0%	(998) 1.0 %	(43,332) 8.0%	(17,503) 3.0%	(533,928) 100%
2002 Actual	(5,735) 22.0%	(18,812) 73.0%	(71) 0.3%	(927) 3.5%	(296) 1.2%	(25,841) 100%

Clientele Contacts by Gender

Gender/ Year	Male	Female	Total
2001 Projected	(213,571) 40%	(320,357) 60%	(533,928) 100%
2001 Actual	(10,452) 40%	(15,389) 60%	(25,841) 100%

CONTACT:

Alford H. Ottley, Ph.D.
 Associate Vice President for Academic Affairs
 University of the District of Columbia
 4200 Connecticut Avenue, N.W.
 Washington, D.C. 20008
 Voice Phone: (202) 274-7100
 Fax Phone: (202) 274-7016
 E-Mail: aottley@udc.edu

Gloria Wyche-Moore, Ph.D.
Associate Director
Agriculture Experiment Station
University of the District of Columbia
Washington, D.C. 20008
Voice Phone: (202) 274-7124
Fax Phone: (202) 274-7113
E-Mail: gwychemoore@udc.edu

Dolores Langford-Bridgette
Associate Director
Cooperative Extension Service
University of the District of Columbia
Washington, D.C. 20008
Voice Phone: (202) 274-7133
Fax Phone: (202) 274-7130
E-Mail: dlbridgette@udc.edu