



# **DISTRICT OF COLUMBIA**

**COOPERATIVE EXTENSION SERVICE**

**AGRICULTURAL EXPERIMENT STATION**

**FY 2005**

**JOINT ANNUAL REPORT**

**OF**

**ACCOMPLISHMENTS AND RESULTS**

**April 1, 2006**

# UNIVERSITY OF THE DISTRICT OF COLUMBIA

## District of Columbia

### Cooperative Extension Service and Agricultural Experiment Station

#### FY 2005 JOINT ANNUAL REPORT OF ACCOMPLISHMENT AND RESULTS

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

**FY 2005 JOIINT ANNUAL REPORT OF ACCOMPLISHMENT AND RESULTS**

**INTRODUCTION**

The University of the District of Columbia (UDC) is the only public institution of higher education in our nation's capital. Designated as the land-grant institution for the District of Columbia, the DC Agricultural Experiment Station has the duty to conduct research, investigations, and experiments that address problems and issues relative to living in a totally urban environment. The Agricultural Experiment Station undertakes problems and issues identified by the Mayor as the priorities for the District of Columbia. Priorities for the city government of the District of Columbia include 1) Strengthening Children, Youth, Families and Individuals; 2) Building and Sustaining Healthy Neighborhoods; 3) Promoting Economic Development; 4) Making Government Work; and 5) Enhancing the Unity of Purpose and Democracy. Thus, the AES has conducted research, investigations, and experiments in the areas of health and nutrition, sustainable agriculture, environmental and water studies, environmental stewardship, chronic diseases (diabetes), stress reduction, water quality, urban gardening, crop production, soil amendment and conservation, academic enhancement (literacy, environmental science, and mathematics), recycling, and neighborhood beautification. AES continues to execute its mission by dialoguing with its counterparts in the Cooperative Extension Service to form meaningful joint and integrated projects and to develop effective strategies that lead to an improved society in the Washington, DC area.

The DC Agricultural Experiment Station is committed to assisting area residents in producing sustainable, healthy environs and communities that will enhance their quality of life. AES continues to work with other academic institutions across the country to participate in multi-state research that addresses national issues, specifically food, nutrition, and health. Overall, AES is working diligently to seize new opportunities, identify areas that require improvement, utilize and capitalize on its strengths, and to create strategies to effectively deal with anticipated threats.

In June 2005, Ms. Delores Langford-Bridgette, Acting Associate Director and Ms. Juanita Hartsfield-Hazel, Technical Assistant to the Dean, both long time employees of DC Cooperative Extension Service retired. The Cooperative Extension Service however, continued to provide innovative educational services to our various ethnic and cultural customers for the enhancement of the quality of life for all. The CES Community Resource and Economic Development unit has instituted valuable economic and resource opportunities through our business cooperative and small business education ventures for our DC metropolitan customers. Interdisciplinary collaborations between the CES Units of Environment & Natural Resources, Family & Consumer Sciences and Housing and Environment have resulted in an environmental hazards and asthma prevention project to assist with this resulting health & environment issue facing the District and many of our at-risk populations. All CES units have forged strong partnerships with private and public, local and regional agencies, organizations and businesses, enabling us to

provide collaborative creative and pertinent educational opportunities for our customers. The Environment and Natural Resources unit provided special programming services for DC elementary teachers and school-aged youth under our Ag in the Classroom program coordinator via our partnership with Cornell University's Connecting Kids to the Food System Initiative. These program projects, "Kids Growing Food" and the "Wellness Learner," have enriched the knowledge and skills of all participants. The hands-on project of the most prestigious District Restaurant Chefs' "Days of Taste," was initiated in September, and is sponsored by the American Institute of Wine and Food, was a resounding success for all adults and youth involved. We have expanded all of our programs with the hiring of committed professionals and strong resource assistance to support family and community development, consumer and financial knowledge and skills, nutrition and health, youth development, water quality, urban pest management, horticulture, and reading literacy. Both AES and CES are collaborating on integrated, multi-institutional and multistate projects in an effort to build a closer relationship with the residents of the District of Columbia

## **A. FY 2005 ACCOMPLISHMENTS AND RESULTS**

### **GOAL I: AN AGRICULTURAL SYSTEM THAT IS HIGHLY COMPETITIVE IN THE GLOBAL ECONOMY**

#### **Overview**

DC Extension and the DC Research are unique in the land-grant system: they exist and operate in an urban area only. Agriculture in the District of Columbia is best characterized as horticulture. Urban agriculture is addressed by providing Home Lawn and Gardening Services to the residents of the District. A high-demand Home Lawn and Gardening Assessment Program was expanded to increase service capacity and thus increasing the service impact on District residents.

Building on the findings of Urban Gardening researchers at the DC Research Station, hundreds of residents cultivating home and public gardens have impacted thousands with increased produce through sustainable agricultural methods. We have also expanded our Master Gardener and Junior Master Gardener program and participation for the enhancement of our urban agricultural services for our customers, and cultivated a corporate relationship with WAMATA to provide advanced landscape training to their current and future grounds keepers.

Smith-Lever Act Funds, Matching, and other Federal Funds Grant Funds were expended on this goal at the cost of \$93,965. A full time equivalent of 1.81 personnel was utilized to support this goal.

#### **Key Theme: Urban Gardening**

**a. Description:** The Master Gardener Program and The Junior Master Gardener Program exposes adults and youth to principles of horticulture to increase 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 is to train Washington, D.C. citizens to be resources in their communities for gardening expertise. UDC trained Master Gardeners in the community to increase the outreach of

cooperative extension by providing a level of valuable horticultural education for individuals and a foundation for beautification of the District of Columbia.

In partnership with University of Maryland, Virginia Tech University and the Washington Metropolitan Transit Authority (WMATA), UDC Cooperative Extension Service coordinated and facilitated a three week Advanced Landscape Training for the WMATA employees. The curriculum included the following topics: pesticide training, basic plant taxonomy and root uptake, plant I.D., turf grass management, pruning, B&B and container installation methods, and tree and shrub fertilization and care of material for first year of planting.

**b. Impact:** Five hundred and sixty-two Junior Master Gardeners had their own outdoor vegetable garden plots to plant, maintain, and harvest. The garden harvests were shared with family, as well with the DC Central Kitchen, where the homeless shelters in the District of Columbia received their food. One new registered Junior Master Group was formed in partnership with Transitional Housing Corporation. This corporation is a faith-based non profit partnership that provides housing and comprehensive support services to homeless and at-risk families so that they can make transformational changes in their lives. Forty Master Gardeners were trained at UDC. Master Gardeners provided 1,860 hours of horticultural expertise to the District of Columbia. Sixty landscape employees of the Washington Metropolitan Transit Authority (WMATA) were trained. The training is mandatory for employees who wish to be promoted. WMATA maintains 3,000 acres of land in the Washington Metropolitan Area. Master Gardeners completed a final exam and 50 hours of volunteer hours. Approximately five WMATA employees were promoted after the mandatory training. Because of the impact of this training the UDC CES Horticulturalist has been contracted on an annual basis by the WMATA to provide their employees with Advanced Landscape training.

**c. Funding:** Smith-Lever; Matching Funds; Fee Based Training; Registration Fees

**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 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, soil testing, telephone consultations (1,140 phone calls) and other educational methods. Eleven (11) soil samples were tested for the District residents. Sixty (60) site assessments provided assistance to area public and private facilities to determine disease and/or the conditions of lawns, trees, plants and shrubs, yielding recommendations for treatment, pruning, removal, and transplanting, as well as suggestions for alternative landscape design plans to beautify and save the environmental welfare of the areas. It is estimated by the Director Toxic Substance Division DC Department of Health that this program impacted two hundred 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 1,860 hours.

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

## **GOAL II: A SAFE SECURE FOOD AND FIBER SYSTEM**

### **Overview:**

This **District of Columbia Food Handler Certification Program Model Project** is in its fourth year of operation. It is designed to conduct research and training to determine the appropriate educational level and methodologies needed to develop an extension food sanitation certification program. The program is designed to provide training for low literacy and hard-to-reach food handlers in the District of Columbia to gain national certification as food protection handlers/managers. This certification program will enable the local Department of Health to comply with the 2001 Federal Food Code, which recommends standards for regulations of the District's food service operations. The project is also designed to develop a model program for the District of Columbia and national-wide replication. Improvement of food handler's behaviors and food handling practices that directly relate to food-borne illnesses will serve to deter the incidence of this critical health threat. It will also improve the confidence of stakeholders and consumers, and ensure the health of an international audience of customers coming and going in the Nation's Capital as well as residents in the metropolitan Washington area.

Smith-Lever Act Funds, Matching, and other Federal Funds Grant Funds were expended on this goal at the cost of \$92,413. A full time equivalent of 1.66 personnel was utilized to support this goal.

### **Key Theme: Food Handling**

- a. **Description:** This **District of Columbia Food Handler Certification Model Program Combined Research and Education Project** is in its fourth year of operation. The project is designed to assist the local Department of Health to comply with the 2001 Federal Food Code, which recommends standards for regulations of the District's food service operations. The project assessed the food handler needs and developed a preparatory Extension education program to increase the incidence and success of low-literacy and hard-to-reach food handlers in passing the national food protection manager and limited food protection manager certification examination. This was achieved through the testing of four teaching methodologies (self study in groups, individualized CD-ROM, traditional classroom/lecture, and learning). Second-level food handlers participated in the study. All study participants received all of the training needed to sit for the national examination. Continuing Education Units (CEU) are available to project participants. This project is in its fourth and final year of funding. The project was funded for 100 participants. To date 390 participants from 194 community-based agencies and organizations are included in the project. During the current fiscal Year 2005 an additional 68 individuals were added from 30 community-based agencies and organizations.
- b. **Impact:** For fiscal year 2005, there were 68 new project participants from 30 community-based agencies and organizations. Needs assessments have been completed on the additional 30 agencies, and the 68 food handlers received the preparatory training. The project is

in its final year of operation. Impacts will be available once the data have been analyzed and a final report generated.

**c. Funding:** United States Department of Agriculture (USDA), Cooperative State Research, Education, and Extension Service (CSREES); this is the fourth year of the \$300,000.00 project.

**d. Scope:** State Specific

### **Goal III: A HEALTHY, WELL-NOURISHED POPULATION**

#### **Overview:**

Interdisciplinary research is being conducted at the University of the District of Columbia to develop an innovative and advanced method for finding diabetes associated with genes using gene expression data. The diabetes associated genes may be used to predict the disease and also to develop new therapeutic treatments. AES is also conducting research in the area of community development, specifically the promotion of stress resistance and psychological empowerment. Helping people gain a sense of personal control over their lives and helping them become hardy and resilient in the face of the stressors endemic to urban life is key. In community interventions aimed at fostering healthy individuals and healthy communities, psychological empowerment and resilience have emerged as key constructs.

The CES "**Determinants to Childhood Obesity**" is in its fourth year of operation. The purpose of the grant is to assist the research team in receiving training in obesity methodology and programs, and develop collaboration with other institutions for the development of a research proposal to study obesity in minority populations. The proposal is scheduled to be developed and submitted for funding during the next funding cycle.

The Food Stamp Nutrition Education Program is designed to improve the health and well being of District residents. The Program collaborators include the DC Departments of Social Services, Income Maintenance Administration; D.C. Department of Health, Nutrition Programs Administration; The Cooperative Extension Service, Center for Nutrition, Diet and Health; and the United States Department of Agriculture, Food and Consumer Services. The overall goal of the program is to provide nutrition education to food stamp recipients and food stamp eligible recipients in the District of Columbia. Evidence and science-based nutrition education to improve dietary behavior is expected to improve health and help reduce the tremendous cost of health care in the District of Columbia. The core elements of the Program are: Dietary Quality, Shopping Behavior/Food Resource Management, Food Security, and Food Safety. The Dietary Quality includes nutrition education in health and disease; Shopping Behavior/ Food Resource Management includes thrifty shopping, reading labels, nutritional value, menu planning, and basic cooking; Food Security includes access to an adequate supply of nutritious and safe foods; and Food Safety includes how food is handled, hand washing, refrigeration, storage temperatures, and cooking food properly.

UDC Cooperative Extension Service's "Nutrition on Demand" Program is designed to provide 'need specific' nutrition programs to the community. The growing problem of Adult and Childhood obesity has given rise to a number of chronic diseases such as Diabetes,

Hypertension, Cardiac disease etc. This program aims to translate research outcomes to health outcomes. The growing cost of healthcare is a direct result of these chronic diseases, not to mention, the psychological impact on adults and children. Addressing the health concerns of the community using research based information to help bridge the knowledge gap with practical solutions, is the goal of this program.

Smith-Lever Act Funds, Matching and Private Funds, and other Federal Grant Funds were expended on this goal at the cost of \$559,043. A full-time equivalent of 8.55 personnel was utilized to support this goal.

**Key Theme: Human Health**

**a. Description:** There are 18.2 million people in the United States, or 6.3% of the population, who have diabetes. While an estimated 13 million have been diagnosed, unfortunately, 5.2 million people are unaware that they have the disease. The serious complications diabetes can be associated with include heart disease and stroke, high blood pressure, blindness, kidney disease, and nervous system disease. The overall aim of this interdisciplinary research is to develop an innovative and advanced method for the prediction of diabetes outcomes using gene expression data. Since gene expression data is often uncertain (containing noise) and incomplete, the existing prediction methods, which require certain and complete patient data, can only offer incomplete or inaccurate analysis. To fill in this gap, we propose the development of a new method, Fuzzy-Inferenced Decisionmaking (FIND), based on the PI's recent research. FIND integrates techniques of pattern recognition, data mining, fuzzy inferencing and case-based reasoning to find the associations among gene expressions as well as the associations between gene expression profiles and diabetes outcomes. Thus FIND is able to predicate diabetes outcomes on incomplete and noisy data with a high accuracy. In this project, a software tool for FIND will be developed and applied to the available gene expression data from patients to predict individual diabetes risk and therapy outcomes. Crucial components of FIND will be investigated and developed to achieve the best prediction accuracy.

**b. Impact:** Successful development of this method will greatly help to individually tailor diabetes treatment, which will not only reduce the patients' exposure to unnecessary therapy, but will also significantly reduce the burden of diabetes therapy and its burden on healthcare systems. Moreover, FIND can be applied for the prognosis of many other diseases.

**c. Funding:** Hatch

**d. Scope:** State Specific

**Key Theme: Human Health**

**a. Description:** Increasingly, independent practitioners have opportunities to become engaged in helping people gain a sense of personal control over their lives, helping them become resilient in coping with adversity and helping them develop inner peace and harmony as fundamental steps toward better psychological adjustment. Key constructs have been interventions aimed at fostering healthy individuals and healthy communities, psychological empowerment and resilience. These approaches are especially relevant for the District of



Columba with its high proportion of people of color, living in poverty, feeling disempowered, health issues, and at-risk of a host of stress and social ills. .

- b. Impact:** Professional presentations will aid in expanding the knowledge of scientific-practitioners in the community in regards to the processes involved in producing resilient, hardy, empowered individuals. It was shown that steps towards a better psychological and physical adjustment are those that allow people to gain a sense of personal control over their lives, and helps them to become hardy and resilient in the face of stressors endemic to urban life. Empowerment allows 1) people to believe in their inherent capacity for growth and positive impact on their environment; 2) fosters deep commitments to develop one's potentialities and advance the potentials of humanity to live in harmony; 3) encourages total responsibility of one's life; and 4) promotes cognitive restructuring of negative experiences as challenging opportunities for growth. This belief system builds tremendous optimism, hope, courage, and confidence.
- c. Funding:** Matching Funds
- d. Scope:** State Specific

**Key Theme: Human Nutrition**

- a. Description:** This training grant is designed to establish a research team with funds to fully develop the "**Determinants to Childhood Obesity**" proposal for funding; to develop partnerships with other universities skilled in childhood obesity research in minority populations; to recruit leading scientists in the field of childhood obesity to join the research team; to develop written letters of agreements with scientists and appropriate agencies where the work will be conducted; and to allow the research team to gain additional expertise in childhood obesity through attendance at conferences, externships, collecting, etc.
- b. Impact:** This is the final year of the training grant. No impact data will be generated from this project. A proposal on obesity will be developed for funding.
- c. Funding:** USDA/CSREES, Initiative for Future Agriculture and Food Systems, \$75,000.00
- d. Scope:** State Specific

**Key Theme: Human Nutrition/ Human Health**

- a. Description:** The **Food Stamp Nutrition Education Program** is designed to help recipients make healthy food choices for meals purchased with food stamp dollars and WIC vouchers consistent with the most recent dietary advice as reflected in the Dietary Guidelines for Americans and the Food Guide Pyramid. Other related objectives include assessments, studies, and education on the provision for adequate food security, food safety, shopping behavior, food resource management, diabetes, hypertension, obesity, dietary quality, system and environmental change, and dissemination of science-based, behaviorally focused nutrition and lifestyle messages to a large diverse population, using state-of-the-art techniques such as social marketing.
- b. Impact:** The program is in its second full year of operation with seven Lead Agencies at 36 sites and has generated over 100,000 contacts.
- c. Funding:** Federal Match; Non-Federal Match; Private Funds
- d. Scope:** State Specific

**Key Theme: Human Nutrition/ Human Health**

**a. Description:** The **District of Columbia Double Blind Drinking Water Taste Testing Research Project** is designed to determine the comfort level, water intakes, and types of water consumed by residents and employees of the District of Columbia. The water taste samples consist of several different types of drinking waters. The project is conducted at sites throughout the city.

**b. Impact:** This is the second year of the project. A total of 214 individuals participated in the project during fiscal year 2005. The program participant demographics showed 122 were residents of the District of Columbia, 43 from the state of Maryland, 6 participants from the Northern Virginia area, and 12 participants outside of the DC metropolitan area. The 210 participants ranked their preferences for types of drinking water options that were taste tested. Seventy two (72) individuals chose spring water as their first choice (34.29%), sixty three (63) individuals chose tap water as their first choice (30%), fifty seven (57) individuals chose distilled water as their first choice and eighteen individuals chose mineral water as their first choice (8.57%) among the four types of drinking water categories that were taste tested. The preferred types that were chosen by the study sample (N=210) showed that spring water was the most preferred drinking water choice, while mineral water was the least preferred drinking water choice. We can imply as a result of this, the study participants have a positive blind taste preference for District of Columbia tap water. Despite the negative exposure associated with District of Columbia tap water, the study participants ranked the District of Columbia tap water sample as their second most blind taste preferred choice.

**c. Funding:** Federal Grant

**d. Scope:** State Specific

**Key Theme: Human Nutrition/Nutrition Health**

**a. Description:** In this qualitative research study, **Cultural Psychological, and Environmental Barriers to Maintaining a Healthy Diet in Inner City African Americans Research Project**, 12 community-based focus groups, each consisting of 6-8 African American adult men or women who are residents of District of Columbia (DC), discussed their barriers to a healthy diet and preferences for dietary interventions. The specific aims of this study are to: 1) Describe social, cultural, knowledge, and environmental barriers to adopting a healthy diet that is high in fruits and vegetables and low in fats in African Americans, and 2) Identify community-based educational strategies that are likely to increase African Americans' knowledge and skills about healthy food choice and to motivate them to improve their dietary patterns. The overall goals of this project are to describe African Americans' barriers to adopting a healthy diet and explore African American's preferred dietary educational programs. To accomplish this goal, we will recruit 72-96 adult African American men and women 25-55 years of age from communities in District of Columbia (DC) to participate 12 focus groups (each consisting of 6-8 people). Focus group assignment will be based on age (25-40 vs. 41-55 years old) and gender; three focus groups will be conducted in each of the four age-gender strata. The PRECEDE framework and the Social Cognitive Theory will be used to guide the design of focus group questions and the analyses of focus group data.

**b. Impact:** This is the first year of this collaborative project between the University of the District of Columbia and Georgetown University. No impact data are available.

- c. **Funding:** NIH Grant
- d. **Scope:** State Specific

**Key Theme: Human Health**

a. **Description.** DC is home to a large variety of ethnic people, who are faced with the same health challenges as Americans, but with added issues such as language, transportation and affordable housing barriers. This program, in partnership with Unity Health Care Inc. and the Diabetes Wellness Foundation has set up diabetes education programs at five community clinics. Nutrition education has been provided to seniors via field trips, seminars and cooking demonstrations. DC Public Schools and charter schools have requested and received nutrition education services. Partnerships have been formed with and services provided to agencies such as the Bureau of Labor Statistics, DC Asthma Coalition, DC Department of Health, CSOSA, Project WISH, DC Cancer Coalition, DC Public Schools, UDC Institute of Gerontology-Community Residential Facility Training, DC Department of Parks and Recreation, Central Union Mission, Youth and young adults have been served via the 4-H and LifeSmarts summer camp projects. Methods of teaching include hands on activities, Train-the-Trainer programs, Field trips, Seminars, In-service training cooking demonstrations etc.

b. **Impact:** The total number of participants in this program numbered 1079 adults and 253 children. 70% of the participants in the diabetes education program decreased their blood sugars between 30 and 50 points, exercise in this group increased by 40%, 50%, participants increased consumption of fruits and vegetables and 30% of the participants increased consumption of whole grains. The Senior Nutrition Program focused on healthy meals, herbs, fiber and whole grains, meal planning, meal preparation and food safety. Analysis of the surveys indicated that whole grain consumption had gone up by 45%, 30%; more meals were being consumed at home; 35% of the participants were using herbs instead of salt to flavor meals and salads; and consumption of fresh fruits and vegetables had increased by 45%. It was also shown that 25% of the seniors tried a new fruit or vegetable once a week. Students of the DC Public school system were taught to read and decipher food labels for sugars, fat and salt. A three month follow up indicated that 70% of the students were reading food labels before purchasing an item and 30% of the students were bringing fruit for snack. Teachers from 13 DCPS participated in the USDA funded TUNA (Teachers Understanding Nutrition and Agriculture) program. The training modules were then incorporated into the class curriculum.

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

**GOAL IV. GREATER HARMONY BETWEEN AGRICULTURE AND THE ENVIRONMENT**

**Overview:**

The scarcity of landfills in the District of Columbia, as well as other parts of the United States, has resulted in an increased need for alternative disposal or reuse of industrial organic waste, such as biosolids. Biosolids are nutrient rich organic materials produced by wastewater treatment and easy to obtain. Biosolids application to land conditions the land as well as fertilizes crops and other vegetation. The application of biosolids improves the physical, chemical and

biological properties of the soil. Application of biosolids also increases water infiltration into the soil, increases the ability of soil to retain nutrients, increase water holding capacity of the soil, provides nutrient for plant growth and provides food as well as beneficial soil microorganisms. AES has two researchers that have been conducting experiment which have incorporated the use of biosolids. These studies were to determine the effects of biosolids compost treatment of soil on the symbioses of cowpea and effectiveness of nodulation and growth in the cowpea.

Another project involved anti-foulant reactions with sediments in the two major waterways in the District of Columbia, the Anacostia and Potomac rivers. Anti-foulant compounds tributyl- and triphenyltins are hazardous compounds found in marine paints to inhibit the attachment of barnacles, sea grass, hydroids and other marine organisms on the bottom of boats and ships. If it is not possible to free rivers of hazardous chemicals and /or agents detrimental to the aquatic biota, then it is imperative to know what hazardous species are present and their interactions and/or relationships with the aquatic biota.

Public health as it relates to pest management continues to be an important issue. Asthma is a growing health problem in urban areas, especially Washington DC. Nutrition, housing environment and entomology are collaborating on a project to reduce roach infestation and reduce the roach and rodent allergens in low-income homes with asthma incidence.

Information and education about water quality issues are critical to maintain and enhance the quality of life of residents in the District of Columbia. In January 2004, the Washington Post revealed that the D.C Water and Sewer Authority (WASA) and U.S Environmental Protection Agency (EPA) did not inform the DC residents of lead level in DC's drinking water for more than a year. Contaminated drinking water is harmful for human health. Exposure to lead contamination for example, causes reading and learning disabilities, attention deficit, liver and kidney problems. Bacteria in water cause typhoid fever, hepatitis, cholera, dysentery diarrhea and many other health problems. The Water Quality Education Program in CES was established to serve as an unbiased monitor of DC water quality and provide education workshops and activities to prevent or minimize the reoccurrence of these problems.

Agriculture in the Classroom (AITC) continued it's partnership with Cornell University's Connecting Kids to the Food Systems Initiative, Kids Growing Food (KGF) by adding 5 more DC Public Elementary Schools during this fiscal year. Since the idea of food gardening became popular, AITC decided to use KGF as an incentive for teachers to participate in this school year's after school program. Kids Growing Food is used as a hands-on component to AITC in promoting the need to lower obesity rate among DC youth. AITC in Partnership with Nutrition on Demand implemented a grant...Teachers Understanding Nutrition and Agriculture (TUNA) to reinforce healthier eating habits along with more physical activity via a teacher training pilot program. The collaboration between American Institute of Wine and Food/ DC Chapter of Days of Taste, FreshFarm Markets, AITC/KGF (added this fiscal year the National Arboretum's Youth Gardens) continued this fiscal year to bring Farmers and D.C. Renown Chefs into 4<sup>th</sup> and 5<sup>th</sup> grade classrooms aimed at enhancing the Standards of Learning and improving academic achievement.

Smith-Lever Act Funds, Matching and Private Fund, Hatch and other Federal Grant Funds were expended on this goal at the cost of \$738,929. A full-time equivalent of 10.46 personnel was utilized to support this goal.

**Key Theme: Sustainable Agriculture**

**a. Description:** When organic material is composted, it acts as a nutrient rich fertilizer. This process of recycling of biosolids would save rapidly diminishing landfill space, replenish nutrients removed from the soil during gardening, prevent soil erosion and increase water retention. In this experiment, the effectiveness of biosolids nutrients in nodulation of a very popular food and common urban garden items in the District of Columbia, *Vigna unguiculata* and *Glycine max*, prompted our laboratory to conduct a study that involved the interaction of biosolids compost application to soil used to grow the cowpea and its effect on the nodulation and growth of the plants.

**b. Impact:** The citizens of the District of Columbia can benefit greatly from information obtained from this study in reference to the increased yield of two very popular food sources. *Glycine max*, in particular, has been used to benefit the people of the District of Columbia because of its documented assistance in reducing the threat of cardiovascular disease, which is the major cause of death in the United States. Both plants, *Vigna unguiculata* and *Glycine max*, are high in fiber which is a major desirable nutrient in the fight against obesity. Additionally, the introduction of a new and beneficial strain of microorganisms was responsible for the increase nodulation and growth in these plants.

**c. Funding:** Matching Funds

**d. Scope:** State Specific

**Key Theme: Sustainable Agriculture**

**a. Description:** Biosolids recycling saves rapidly diminishing landfill space by promoting sustainable agriculture; enhancing gardening by supplying nutrient rich organic fertilizer; preventing soil erosion; increasing water retention; and lowering production costs. Therefore, the objective of this study is to determine the effects of bradyrhizobia genotypes isolated from soils amended with three annual applications of biosolids compost on nitrogen fixation and yield in the cowpea *Vigna unguiculata* cv "California black eye No. 5".

**b. Impact:** The results indicate that the two new strains of Bradyrhizobium (73-3 and 73-28) were effective in increasing the yields of cowpea plants. They produced larger plants than the control and Bradyrhizobium 3456 and Bradyrhizobium 3384. These new strains have shown that they can be used as inoculants for the cowpea and increase the yield for a higher production of plants. Thus, the use of biosolids served as soil conditioner, returning nutrients into soils where they contributed to crop productions. There has also been increased usage of biosolids as soil amendments which has reduced the volume of biosolids that must be land filled.

**c. Funding:** Matching Funds

**d. Scope:** State Specific

**Key Theme: Water Quality**

**a. Description:** The speciation of two classes of triorganotin compounds in the Anacostia and Potomac River sediments have been investigated as a function of pH and salinity. Compounds studied were tributyltin chloride (TBTCl), bis-tributyltin oxide (TBTO), tributyltin acetate (TBTOAc), triphenyltin chloride (TPT) < triphenyltin hydroxide (TPTOH) and triphenyltin acetate (TPTOAc). The aquatic mediums investigated were aerobic and anaerobic sediments, since sediments can act as a sink for the leached triorganotins where interaction with the various sediments/organisms can occur. Sediments were spiked with the tributyltin (TBT) compounds at various pH levels. The results for the parameters of anaerobic and aerobic sediments spiked with either TPTCl or TPTOH under the same pH conditions, in general, show that they are similar to each other as are the average values for these spiked sediments. This suggests that both compounds form the same species upon interaction with the sediments and are similar in structure to the pure compounds. The data for TPTCl and TPTOH indicated that anaerobic and aerobic sediments spiked with the same TPT compound under various pH conditions from the different sites gave similar values, suggesting that the speciation was not a function of pH. Additionally, the data for the TBT compounds indicated that anaerobic and aerobic spiked sediments from the different sites under the various salinity conditions gave similar values. Salinity does not appear to be a major factor influencing the speciation of the TPT compounds. The Mossbauer spectral parameters of the spiked sediments indicated that changes occurred in the compounds due to their interactions with the sediments. However, changes in salinity did not affect the speciation of the triorganotin compounds in either aerobic or anaerobic sediments. Variations in the Mossbauer parameters at the different sites may reflect the dissimilarity in the components of the sediments, as well as the manner in which these components interact with the different triorganotins at the different pHs.

**b. Impact:** This information will enable those making decisions about the water quality to better assess the long term impact of these and other chemicals on the public aquatic environment. The results provide individuals and/or government agencies interested in water quality and planning of the Anacostia and Potomac rivers with knowledge of the fate of these chemical once they are leached into the aquatic environment as well as understanding the long term environmental impact of these compounds, particularly on the fish population in the Anacostia and Potomac rivers.

**c. Fund:** Matching Funds

**d. Scope:** State Specific

**Key Theme: Training Pesticide Applicators**

**a. Description:** DC regulations require that Pesticide Applicators that are either residents of District or work exclusively in the District of Columbia must take their licensing exam in DC. The primary goal of the Pesticide Safety Education Program (PSEP) in DC is to provide initial training. In FY 20005 the training was focused on registered employees in the form of multi-day review sessions.

**b. Impact:** In collaboration with Maryland CES, a series of 4-day short courses for Registered Technicians/Employees was established. Days one and two are devoted to Core topics; whereas, days three and four are spent on Turf & Exterior Ornamentals and Structural or T & O and Aquatics and Interior Plants respectively. Based on need, Aquatic pests and Interior plants are only offered once per year. Previous reports have expressed the relatively low rate of demand for applicator training. Demand seems to be on the rise, as word of the short course

spreads. 42 individuals received initial applicator certification training and 92 individuals received non-certification training

**c. Funding:** EPA Grant; Smith-Leaver; Matching Funds; Fee based

**d. Scope:** State Specific

**Key Theme: Pest Management and Public Health**

**a. Description:** This program is designed to educate District Residents on how to effectively manage resident pest problems. In FY 05 it was strictly workshop/seminars for small groups.

**b. Impact:** 56 individuals received information packets; there was no follow-up to determine specific impact

**c. Funding:** Smith-Leaver; Matching Funds

**d. Scope:** State Specific

**Key Theme: Water Quality**

**a. Description:** The Water Quality Program developed research based informational brochures and fact sheets distribution to the DC community. Three hundred letters and self stamped envelopes were randomly sent to DC residents seeking participation in the Drinking Water Monitoring Program and 80 signed consent forms were returned. Water Quality workshop was conducted to 55 youth in Life Smart Club in the 4-H program. The workshop addressed the importance of water quality and the effect of contaminated water on human health. At Ft. Stevens Recreation Center, workshop on water quality was conducted to senior citizens. In South East Library, water quality education workshop was conducted at Community Economic Development club.

**b. Impacts:** This is the first year of the Water Quality Education Program and surveys to assess the program's relevance and workshops/activities effectiveness will be completed by participants. After workshop was conducted at Ft. Stevens Recreation Center, one of the participants decided to send sample from her tap water for lead contamination test. The test result shows high concentration of lead in water and the participant changed her water supply pipe. During the second workshop, this participant told her story to those who attended the workshop. The impact of this program on DC residents will be measured by the improvement in DC drinking, surface, water.

**c. Funding:** Smith-Lever; Matching Funds

**d. Scope:** State Specific

**Key Theme: Sustainable Agriculture**

**a. Description:** the AITC/KGF program is an after school teacher training program that provides activities and resources to DC teachers and students that increase agricultural literacy and awareness. The purpose of the program is to expand participant's knowledge base and skills in the field of Agriculture through the "Agriculture in the Classroom" approach and to prepare participants for job awareness opportunities in agriculture and related fields. The terminal goal is to infuse agriculture content into the curriculum in all DC Public Schools. Food gardens continue to be the focus for KGF and is the vehicle used as a strategy to help students understand where food come from, how it grows and to help them make healthy food choices. TUNA was a

five module three day workshop for a dozen teachers who were graduates of the AITC program. The Modules taught were: What's Fat Got to Do with It, Go with the Grain, Looking beyond the Commercial, The Food Rainbow and Add a Little Salsa to Your Life. (Ann Matz from Salsa Wild. Com gave a group Salsa Lesson). What a fun way to become physically active. Each one of the modules included the agriculture-nutrition connection. Teachers learned what food manufacturers are required to put on labels and what information is left out. They observed what the manufacturers advertised about the product compared with the reality of the product contents. They also learned how to read and interpret food labels and what the information means in relationship to the new USDA Dietary Guidelines for American. Additionally, teachers created lesson plans reflecting each of the modules.

**b. Impact:** Eight teachers completed at least six of the eight workshop training sessions. Each teacher wrote at least two lesson plans that tie in with the DC Standards of Learning. At least 80 telephone conferences were conducted regarding AITC activities or potential activities. AITC and KGF information was presented at the 2005 Smithsonian Folklife Festival. Being on the Smithsonian Mall in Washington, D.C. is not the typical place you would hear a presentation on AITC or KGF but approximately 200 people joined us during the three different one hour sessions on the topic: Food for Thought: Teaching Children about Good food. Each session generated active participation and discussion. Educators, parents, grandparents and children were the beneficiaries of our efforts. Nine teachers completed the three day TUNA workshop. We observed at least six of the TUNA teachers teaching lesson plans they developed about nutrition and agriculture. Through a collaborative plan involving American Institute of Wine and Food/ DC Chapter of Days of Taste, Fresh Farm Markets, Warner-Hansen Public Television and AITC/KGF, approximately 180 DC students and 6 teacher and adult volunteers were beneficiaries of DC Renowned Chefs in the Classroom providing hands-on lesson with food. It is noteworthy that the collaborative group has been meeting every other month since November, '05. At our February, '06 planning meeting, we agreed on the name "FoodPrints" and established a timeline of activities for the collaborative effort of the partnership. FoodPrints first activity during this school year is an Essay Contest which will take place during National Ag Week in four of the following AITC/KGF elementary schools: Bowen (W2), Webb (W5), Ludlow Taylor (W6) and Seaton (W2). The target grade levels in each school are 4<sup>th</sup> and 5<sup>th</sup> graders, hence; approximately 322 students and fourteen teachers will participate. Students will be given a choice of two themes: "Share your favorite family recipe and tell us who it comes from in your family and what you remember about them" or "Tell a story of a food that you or someone in your family grew". Those choosing the recipe project will include the recipe as part of the essay.

**c. Funding:** Smith-Lever; Matching Funds

**d. Scope:** State Specific

## **GOAL V: TO ENHANCE ECONOMIC OPPORTUNITIES AND THE QUALITY OF LIFE**

### **AMONG FAMILIES AND COMMUNITIES**

#### **Overview:**

In a continued effort to enhance the quality of life of an urban society, the Agricultural Experiment Station established its goals in alignment with those of the District of Columbia to



include strengthening children, youth, families, and individuals; building and sustaining healthy neighborhoods; and promoting economic development. The District of Columbia's low literacy level (over 30% of adults) keep many residents out of decent paying jobs and training programs. The new jobs being developed in the District of Columbia are now requiring higher literacy levels than before. Thus, the AES has projects/ programs to educate both students and teachers in urban agriculture and environmental studies as well as those that promote community development. These projects and programs include the Water Environment Studies in Schools Teacher Training Institute (WESS TTI), the Adopt-A-Block (AAB) Program, Youth Environmental Literacy and Adult Literacy.

The Housing Environment Program in collaboration with District of Columbia, Housing Finance Agency, Wheeler Creek Home Buyers Club, Henson Ridge Home Buyers Club, Carolsburg Home Buyers Club, Marshall Heights Home Buyers Club, University Legal Service, Institute of Gerontology, District of Columbia, DC Department of Parks and Recreation, and Assembly of Petworth introduced the Basic Home Repair Program to 8,500 District residents. We had 3,250 residents to actually sign up for workshops to receive hands-on instruction in such topics as; wall repair, toilet tank repair, leaky faucet repair, and basic electricity. The Housing Environment Program also introduced the Working Homeowner Program to 1,000. District residents with 100 actually using information received in hands-on workshops in such topics as; installing door locks, installing a sink, changing light fixtures, installing a toilet, installing ceramic tile, painting, and installing a garbage disposal. The Housing Environment Program and collaborators provided 2,873 residents with information about indoor air problems such as, radon secondhand smoke, mold, mildew, and carbon monoxide. The District of Columbia Housing Finance Agency (DCHFA) was established in 1979 to stimulate and expand homeownership and rental housing opportunity in Washington, D.C. DCHFA accomplishes its mission by issuing tax-exempt Mortgage Revenue Bonds that both lower the cost of financing single-family housing and cost of acquiring and constructing rental housing. The housing Environment Program in collaboration with DCHFA provided 175 District residents with information and training on how to purchase a home.

Often undiagnosed and under-treated, asthma is the number one serious chronic illness in children and the leading cause of school absence and hospitalization. An estimated ten thousand (10,000) children under the age 18 and twenty two thousand (22,000) adults in the District of Columbia suffer from asthma, according to the Allergy and Asthma Foundation of America, costing the District more than an estimated \$14 million in 1998 in direct medical expenditures for hospitalizations, doctors' visits, medication, and related expenses. The lack of community awareness contributes to the disproportionate impact on African American and Hispanic children in the District. The CES Housing and Environment Program, Natural Resource and Environment Program, and Family and Consumer Science collaborated to form the CES Asthma Project. The CES Asthma Project was introduced to provide District residents with information about how to identify and resolve Asthma Triggers in their home.

Additionally, the 4-H and Youth Development is Cooperative Extension's non-formal educational program for young people. This program combines the cooperative efforts of youth, volunteer leaders, state and land grant universities, federal, state, local governments, and the United States Department of Agriculture. The goal of the program is to assist young people in

developing knowledge, skills, and attitudes that will enable them to become self-directing, responsible, productive citizens, and contributing members of society. Volunteers are essential to the successful delivery of 4-H programs. 4-H serves youth in a variety of methods such as; 4-H School Enrichment Programs, 4-H Special Interest Groups, 4-H Individual Study Programs, 4-H Instructional TV Programs, 4-H Camping, 4-H Projects and Hands-on Learning.

Smith-Lever Act Funds, Matching and Private Fund, Hatch and other Federal Grant Funds were expended on this goal at the cost of \$1,036,108. A full-time equivalent of 16.71 personnel was utilized to support this goal.

**Key Theme: Community Development / Adopt a Block**

**a. Description:** The Adopt-A-Block Youth Environmental and Life Science Education program includes school site based beautification, street side walk clean-ups and beautification in the blocks of the targeted communities. The program is continuing to expand the educational components to include more detailed emphasis on watersheds and natural resources curriculum within the DC Public Schools. Such projects include providing assistance to instructors in guiding students through the design of small gardens that abate water run-off which lead to soil erosion. This includes tree planting, planting of flowers and/or grasses. The program offers an innovative project for civic-minded individuals and organizations and gives community members the satisfaction of making a notable contribution to their communities.

**b. Impact:** Student's level of inquiry regarding their environment increased as well as their interest and behaviors shifted toward outdoor explorations, urban gardening, community greening, and community clean up. Thus, increasing their awareness level of the environment.

**c. Funding:** Hatch Funds

**d. Scope:** State specific

**Key Theme: Environmental Education**

**a. Description:** The WESS program is 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 DCPS performance standards; 3) Innovative practices to improve math, science and technology teaching and learning of teachers and students; and 4) Total community involvement in the conservation of the Anacostia River Watershed. The WESS program focus is the Anacostia River Watershed in which the students and teachers are residents. The goals of this program are: a.)To establish a core group of teachers trained in the knowledge and technology to integrate environmental education into the total junior high school and middle school curriculum; b) To provide teachers with the expertise to write curriculum that integrates the current performance standards and allows for their application and reinforcement in mathematics, science, arts and humanities through environmental education; c) To provide teachers with the skills to help students to achieve and maintain the academic standards necessary to bridge the transition from high school to college in science, mathematics and technology and d) To increase the participation of minority youth in environmental issues and enhance their perspective of the effect they have on the environment through project focus on the Anacostia River.

**b. Impact:** The WESS project enables teachers to design and implement a plan and process for restoring the River and to promote its popularity to the general public as well as to the students. The Institute experience empowers teachers to conduct in-school student-centered follow-up activities that include: 1) water quality assessment, 2) wetland studies, 3) environmental monitoring; 4) formation of community support; and 5) development of collaborative partnerships for the preservation of the Anacostia River Watershed. The overall study of the WESS Program indicates that there is continued growth among the participating teachers and that they have gained an awareness of the importance of water environmental studies. Further, they recognize the importance of continuing this program.

**c. Funding:** Grant Funds; Matching Funds

**d. Scope:** State Specific

**Key Theme: Youth Literacy / Environmental**

**a. Description:** A youth environmental literacy program, Standing In the Gap (STING), focused on enhancing students academically, socially and emotionally, while nurturing parents in conjunction with established “in-home” parent, child, teacher programs. The program designed to combine the academic enrichment, life and social skills, work ethics, and self confidence in students. The program also engages students in an environment that will reinforce their skills and performance standards primarily in literacy/reading. The program also seeks to remedy the lack of performance of inner-city youths of national academic standards by using an innovative Environmental Education curriculum which provided activities in literacy/reading, writing, environmental education, math, and civics. The curriculum activities are both structured and taught by the educator provider. Thus, STING engages, informs and educates both the students and parents.

**b. Impact:** This program fosters a positive environment through recognition, respect, life social skills and academic support. The DC READS student mentors tutored the program participants in reading, comprehension, and helped the participants to build self esteem. This program empowers students to develop the essential skills of reading/literacy, writing, science, math, civics and critical thinking skills which enhanced their academic performance. The students became more aware of their blighted urban environment and eagerly engaged in activities of preservation and conservation of the natural environment.

**c. Funding:** State Education Agency Funds; Match Funds

**d. Scope:** State specific

**Key Theme: Adult Literacy**

**a. Description:** This study is an effort to better understand how low literate adults in the District of Columbia “navigate” adult education and employment programs. As a part of Washington, D.C. Mayor Adult/Family Literacy Initiative, it was reported that over 130,000 residents, roughly forty percent of D.C.’s adult population, are functionally illiterate. In an effort to understand the complexity embedded in the issue of “functional literacy” in the District of Columbia and find solutions to this problem, this project engaged target populations of the city’s residents with low literacy skills - high school dropouts, ex-offenders, single mothers, young adults (19-34) and recipients of Temporary Assistance to Needy Families (TANF)- to help to refine an understanding of their needs and preferences. Twelve focus groups were established

with members from each group. Discussions with each group were designed to help understand how to promote retention in literacy programs offered by public and private sectors.

**b. Impact:** By discussions, personal stories, and observation, it was discovered that participants of this project: 1) needed to overcome their fear of limited literacy skills and the stigma associated with it; 2) wanted to involve student tutors and mentors and other individuals who have successfully completed an adult literacy program work with them; 3) wanted outreach and recruiting efforts to focus on people most likely to inform and support the targeted population; 4) and the participants felt that the creation of a centralized intake center, to address the pre-program needs and preferences, would help in engaging adults with low literacy skills in adult literacy programs. This, they felt would encourage more adult learners, like themselves, to take advantage of the State Education Agency's Adult Literacy programs.

**c. Funding:** Hatch; State Education Agency

**d. Scope:** State Specific

### **Key Theme: Promoting Housing Programs**

**a. Description:** The goal of the UDC/CES Housing and Environment Program, in collaboration with D.C. Housing Finance Agency, Wheeler Creek Home Buyers, Henson Ridge Home Buyers Club, Carolsburg Home Buyers Club, Marshall Heights Buyers Club, is to provide housing programs that will enhance the quality of life among families and communities through skills/knowledge of basic home maintenance, and advance home maintenance workshops. The Basic Home Maintenance Program provides District residents with basic skills/knowledge needed to make minor repairs in and around their home. The Advance Home Maintenance (Working Homeowner) provides District residents with advance skills/knowledge to perform more advance repairs in and around their homes.

**b. Impact:** Participants are evaluated during the basic/advance hands-on workshops and participation in all demonstrations. Each participant completes an evaluation instrument after each workshop series. After a period of three months participant receive a newsletter providing useful information about home issues. It also asks if the information received in prior workshops has been useful, if so the participant is asked to send a letter outlining what was done. In FY 2005 the HEP Program introduced the Basic Home Maintenance Program to ten thousand five hundred (10,500) District residents, in collaboration with DC Housing Finance Agency, Wheeler Creek Home Buyers Club, Henson Ridge Home Buyers Club, Carolsburg Home Buyers Club, Marshall Heights Home Buyers Club, and Ft. Stevens Recreation Center. These organizations assisted the CES Housing and Environment in advertising program information and also provided space to conduct workshops. Housing and Environment Program staff also developed and distributed newsletter to District residents. Two thousand two hundred fifty (2,250) residents participated in workshops. Of the 2,250 residents that participated in the workshops, two thousand twenty five (2025) actually used the information and skills learned in workshops to make basic repairs around their home. Their participation in these workshops resulted in an approximate net savings of \$210.00 per household (total estimated savings of (\$425,250). The Working Homeowner Program was introduced to one thousand (1,000) District residents with one hundred (100) actually using the information and skills learned to replace items around their homes, which resulted in approximate savings of \$425.00 per household in repair cost (total estimated savings of \$ 340,000). Each organization provided HEP staff with necessary

information for reporting. The net savings of each household was obtained from “Home Tech Remodeling & Renovation Cost Estimator”.

- **Success Stories:**

The HEP Working Homeowner Program provided workshops for Paving Access Trail for Higher Security Program (PATH). The PATH Program goal is to help District residents achieve better opportunities for education, jobs, and housing. Seven (7) PATH students obtain skills so they could apply for entry level positions in the area of maintenance and repair. On December 15, 2005 the all 7 students received certificates of completion, and were able to attend job fair.

- During the summer of 2005, the Seniors Program at Fort Stevens Recreation Center hosted a community fish fry day as a fundraiser for the center. The event was a suggestion made by a HEP staff person as a way to raise funds for the seniors program. The project was a success, raising over \$1,800.00

- The Housing and Environment Program in collaboration with DC Housing Finance Agency was able to provide 400 District residents (non-homeowners) with information and training on how to purchase and maintain a home. By December 2005 sixty (60) District residents qualified and purchased a new home in the District of Columbia (average cost of home \$ 175,000).

c. **Source of Funding:** Smith-Lever; Matching Funds

d. **Scope:** State Specific

**Key Theme: Children, Youth, and Families at Risk**

a. **Description:** The CES Asthma Project, in collaboration with US Department of Agriculture, Cooperative State Research, Education and Extension Service, US Department of Housing and Urban Development (Healthy Home Project) DC Asthma Coalition, DC Health Department, Housing Finance Agency, is to assist District residents in identifying asthma triggers within their home such as; dust mites, secondhand smoke, pet dander, roaches, rodents, mold, and mildew. The Asthma project will provide District residents with fact sheets, brochures, and home audits to help resolve and correct any issues they may have relating to asthma triggers.

b. **Impact:** CES Asthma Project and its collaborators provide information to District residents on asthma triggers. Thirty five hundred (3,500) District residents obtained information about CES Asthma Project. In response to information distributed about CES Asthma Project, Rock Creek Charter School, East of River Community Development, DC Housing Finance Agency wanted Asthma presentations at their locations.

- **Success Stores:**

Ms. Succi, the on site nurse at Rock Creek Charter School want a CES Asthma Project presentation for their 35 teaches on how to identify asthma triggers. Each teacher was provided information on asthma triggers such. Each teacher was provided the Healthy Indoor “Kids Care About Clean Indoor Air Activity Folder.” The folder contains teacher guide, room-by-room check list, asthma worksheets, pencil, and Airickson Asthma Coloring Book. Two weeks after presentation Ms. Succi informed CES Asthma Project team that each teacher had used information received. According to Ms. Succi two hundred students were learning about asthma.

c. **Source of Funding:** Funds and Healthy Home Project Grant

d. **Scope:** State Specific

**Key Theme: Youth Development (Literacy – School Enrichment Program)**

a. **Description:** DC Reads is the University of the District of Columbia Cooperative Extension Service literacy program created to break the chain of illiteracy that ties people to poverty. DC Reads tutors (primarily college students) are hired and trained to work with youth identified through testing as being in need of assistance to read and comprehend reading material better. Prior to entering the program, youth are tested to determine potential reading problems. Tutors travel to assigned schools or after-school programs Monday through Friday to work with assigned students in a variety of interactive and fun activities designed to improve reading skills. Proven structured and repetitive training processes help to ensure individual success no matter at what level the students enter the program. Prior to program completion, students are retested to determine how much their reading skills have improved. Last year all of the children in the program exhibited gains as indicated by post-testing scores.

**4-H Cyber and Water Resources Camp:** The primary objective of this program is teaching children how to use computer programs that help them express their ideas while knowing when to move away from the computer to explore the outside environment. This is a 4-H summer camp program that employs college students and gives them an opportunity to work with children to help them learn about computers. This summer two sessions were held hosting 18 children. Children learned about computer programs in the Microsoft WORD Suite. They developed power point presentation about themselves and they explored the outside water environment. Campers explored eight different water sites in the District of Columbia to gather water samples. The samples were then tested by a local lab and the children learned about the contents of our water. They then also learned about mapping their results using GIS/GPS software.

**4-H Sewing Entrepreneurship Program:** This program encourages young people to discover and develop their creativity, independence and self expression by learning sewing skills and entrepreneurial techniques that enhance their confidence in their abilities to succeed. The Sewing Entrepreneurship Program (SEP) is an after school program that teaches youth ages 7 - 17 basic sewing, design, and re-design skills. The goal is to teach youth to start business ventures or clothing lines which is used as their 4-H project. During the school year, Sewing Entrepreneurship is an after-school program offered weekdays from 4 - 6pm. During the summer months from July to August, the program is offered as a day camp from 9:00 am-3:00pm with an ending culminating fashion show.

**4-H Operation Military Kids:** This program is a 4-H project designed to provide support to children of deployed parents in the military. When National Guard, Army Reserve and other military parents living in civilian communities are mobilized, their children suddenly become different. Now they are "military kids" but they still "look the same" to teachers, friends and the rest of the community. Their lives are turned upside down! These "new" military kids need to connect with other youth in similar situations. They seek friends and adults who can empathize and can help them cope with their new world. Operation Military Kids is that vital link for these children. Through a partnership with the Bolling Air Force Base, we were able to start two new

4-H clubs on base that served 24 children. The youth center on the base is being totally renovated and we will expand the program in the future. The Wood working club participants chose to call themselves the “Wood Chucks” and made several interesting projects including clocks, bird feeders and key holders. They elected officers and began to learn how to conduct meetings and they decided on a community service project. It will be completed in this new fiscal year. A 4-H Spanish Speaking club was also established and children learned 30 new words fluently.

**4-H Community and School Based 4-H Clubs:** The aim of these programs is to increase young people's opportunities to have fun while developing lifelong skills through experiential learning in safe, healthy, and enriching environments.

**b. Impact:** When children entered the **DC Reads** programs in late September we use the Slosson Oral Reading Exam to test their reading abilities. At the end of each semester we re-administer the test to gage their progress. Senior training tutors visit the sites twice weekly to evaluate the performance of tutors. During our weekly meetings they share observations that might improve the program. Because they are peers of the tutors they are able to be effective and positive. After training is completed for tutors they are given training evaluation sheets to share their concerns. Weekly meetings are held with site coordinators to discuss any concerns they have about the program.

Through the **4-H Cyber and Water Resources Camp**, the 4-H and youth development unit gained materials to further the program and we began a written curriculum to be used for future projects. The youth learned about environmental careers and projects. Some children reported greater interest in computer research and we are aware that one of the children received a new computer from his parents after the camp ended. We have received calls from parents interested in having their children come back to the camp this summer. Three schools have expressed an interest in doing individual camps themselves. We are meeting with them to expand the use of software and work jointly to receive new resources. Those schools include School Without Walls Public Charter School, KIMA Public Charter School and Terrell Elementary School.

The **4-H Sewing Entrepreneurship Program** hosted 108 youth both on and off of our campus site for eleven months. We had two separate summer sessions to accommodate more youth in our small space. Five program participants received new sewing machines from their parents. Two 4-H SEP participants made presentations at the induction ceremony for the CES Community Advisory Board. They discussed how the program has impacted their lives and confidence. Merchandise created by them was displayed and sold after the dinner. Two representatives from this program accompanied Ms. Janice Rankin, 4-H agent, to the National 4-H Congress program in Atlanta, Georgia. Summer camp participants modeled their creations in a closing fashion show recorded by the DC Film Institute and attended by family and friends.

The **4-H Operation Military Kids Club** has had a positive impact such that we have been asked to provide more services to parents in year 2006. The Youth Center has been completed and we hope to move in April of this year. We will attempt to serve more children in the new building.

**4-H Community and School Based 4-H Clubs** were established at Tubman Elementary School, Muhammad University Charter School, Roosevelt Senior High School, Eaton Elementary School, and John Quincy Adams Elementary School. Students participated in activities such as:

Sewing, Embryology, Communications and Media, Water Resources investigations, computer technology, drama and leadership development. Eighty-four children were served through these clubs.

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

**Key Theme: Workforce Preparation (Youths and Adults)**

a. **Description:** LifeSmarts, a unique consumer knowledge game show competition is designed for teenagers in grades 9 – 12. LifeSmarts concentrates on several crucial areas of real life: Personal Finance; Health and Safety; Environment; Technology; and Consumer Rights and Responsibilities. This consumer education program for youth also fits into the category of Adult and children’s literacy, by preparing the youth to be smart and savvy consumers. It prepares youth to ask the right questions, understand the way certain systems work and save money.

b. **Impact:** The state competition was conducted on the UDC campus and the winning team was from Johnson Jr. High School. They travel to San Francisco, California where they competed in the national LifeSmarts competition. Through the LifeSmarts program last year we offered a summer camp program that served fifty five participants. Presenters from nineteen area companies came to speak to program campers from July through August. Post teens indicated that teens showed an increase in knowledge of consumer issues by 20%.

- c. **Funding:** Matching Funds; CYFAR/USDA Grant; Environmental Science Research Institute
- d. **Scope:** State Specific

**Key Theme: Promoting Community and Economic Development**

a. **Description:** In conjunction with Goals of the USDA; “Enhance Economic Opportunity and Quality Of Life for Americans,” and the District of Columbia Strategic Plan and Budget for 2005 -2006 “Strengthening Children, Youth, Families and Individuals, Building and Sustaining Healthy Neighborhoods, and Promoting Economic Development. The goal for the Community Economic Development Program and the Center for Cooperatives and the C.H. Kirkman, Jr. Resource library for Cooperatives is to facilitate the revitalization and stabilization of low- to moderate-income neighborhoods, commercial, industrial areas in the District of Columbia by improving the economic welfare of families, neighborhoods and communities through local and national cooperative support network, economic and business development training, interdisciplinary research, education, technical assistance and community service.

b. **Impact:** CRED used key collaborations internally with COES/CES, the UDC School of Business and School; of Engineering and externally with 10 coop agencies and 200 community based organizations and key individuals to provide services through 4 theme areas, i.e. Literacy, promoting housing, promoting business leadership/training and development and youth development CRED amass a considerable amount of activities which included:

**Literacy:**

- Held 24 financial planning sessions for 650 person at 7 neighborhoods sites, held 18 individual counseling sessions on budgeting, debt management and financial planning, wrote two articles and an information sheets, which were emailed to over 1200 agencies, two community newsletters and 4 radio stations, trained 100 volunteer tax preparers,



provided direct tax preparation that accounted for \$50,000.00 in income tax returns for disadvantaged District residents and campaigned to open two community credit unions- East of the river and participated 6 energy deregulation/conservation awareness workshops and fairs for 10,000 disadvantaged DC residents

### **Promoting Business Programs**

- Conducted 60 Entrepreneurship sessions at UDC for 13 to 15 persons per session, held 10 incubator sessions for a total of 21 business persons, offered two small business tax classes for the UDC-SBA for 25 persons, arranged for 2 business school faculty to teach business seminars for reStoreDC, participated 8 citywide community development planning sessions; these activities produced 15 new profit and not for profit businesses that produced over two million new dollars in revenue this fiscal period, prepared four (4) persons 501-C-3 applications, initiated two collaborative proposals for \$600,000.00 to serve the returning Ex-offender population, participated in 30 community based activities to advance UDC/CES Programs which reached over 30,000 persons, received \$20,000.00 from C.H. Kirkman, Jr. to support the his resource library,

### **Promoting Housing Programs:**

- Graduated an additional 40 shareholders in coop principles and practices at Southern homes and Garden Cooperatives,
- Collaborated with 4 communities housing coalitions, representing over 200 agencies and the DC Housing Finance agency, conducted 4 homebuyers, attended 32 housing meetings and hearings on affordable housing, housing coops, the DC community development plan and Great Streets. At minimum, the housing advocacy groups reviled critical issues about DC government loop holes in the city's rent control laws, predatorily lending policy, tenant first right to purchase laws, improper massive property tax changes; as well as to request additional money to the DC Housing Production Trust Fund to build affordable housing, rentals and coops. Over 30,000 low to moderate income persons and seniors left the District in FY05, with over 100,000 more threatened in FY06

### **Youth Development:**

- CRED participates in four youth career development projects annually. They are: the graduation of 144 school age youth from the computer program at the Stanford Technology Institute, Career Day for 300 youth at New Enterprise Public Chartered School, an entrepreneurship class and black history program for 280 youth from the James Weldon Johnson Center for the Arts and offered a business development session for 60 youth in the CES Family and Consumer Science and a three day workshop with the DC Film Academy; In-addition, CRED participated in the DC-ACT for Children's Back to School Bag of Educational Supplies for 200 children in the Shaw Community.

### **Leadership/Training and Development**

- In-addition to organizing 6 not for profit organizations, CRED staff serves on community advisory communities associated with its mission. Groups such as the steeling community for IDEA Public Charter School, the DC Environmental Commission, the Anacostia Land Trust, Community Harvest and Community Forklift and the urban Institute. With each of these groups the CRED teams

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

## **B. Stakeholder Input Process**

### **Agricultural Experiment Station**

The Agricultural Experiment Station continues the dissemination of surveys to residents in each Ward, however we are in the process of revising the survey to focus more specifically on critical issues in the District of Columbia. We will not only distribute the survey manually but we will also make it assessable through our newly designed website. Input from stakeholders is also provided by informal contact through e-mails, telephone, interviews and neighborhood meeting.

The UDC Cooperative Extension Service has cultivated and trained a highly involved stakeholder group in FY 2004, **the UDC Extension Advisory Council (EAC)** which continued into 2005. This group is led by our acting chair, Les Brown, CEO BeHealthyLifestyles Group, Inc, to ascertain the desires, issues and concerns of our District customers. The program units' stakeholders committees meet at various intervals, such as the 4-H Advisory Committee, which meets 2-4 times per year. We continue to strive to provide programs and activities that are customer driven, some to a greater degree than others, as our Nutrition on Demand program. Through the various program advisory committees, program colleagues and agency collaborators, we have enhanced and expanded our program efforts and offerings.

The following list includes organizations, businesses and individuals who have been instrumental in fostering the CES programs by donating their time, expertise, funds and in-kind gifts.

American Horticultural Society

Blue Sky Press, an imprint of Scholastic Inc.

Children's author, Lynne Cherry – donated signed copies of her book "How Groundhogs Garden Drew"

DC Master Gardeners – participated in the orientation for KGF teachers

EarthBoxes – provided training for teachers and students

Giant Foods – The nutritionist worked at one of the stations while students visited the supermarket.

National Gardening Association

Plant a Row for the Hungry Program

Seedway Seeds – provided seeds to the participating schools

United Nation Food and Agriculture Association – provided training for teachers

USDA, Agricultural Research Service- provided training and agricultural resources.

USDA, Cooperative State Research, Education and Extension Service – provided training via in-kind service, materials and resources

Whole Foods Markets – provided the food for "Sharing and Caring KGF Extravaganza"

United States National Arboretum – provided training and lunch at the Arboretum

DC Master Gardeners

Unity Health System serving the city-wide needs of Hispanics, Asians and persons of African decent, Howard University Community Association Advisory

DC Department of Health  
 HEADS UP, TEAM After-School Board  
 DOH Division of Toxic Substances  
 DC LifeSmarts Advisory Committee and National Consumers League  
 DC Public, Charter and Private School Principals and Professional Staff  
 UDC CES Center for Cooperatives Advisory Committee  
 DC Housing and Finance, DC Energy Office, and National Housing Alliance  
 DC Metro Green Industry  
 R.E.A.C.H. INC.  
 The American Reality Association  
 Community Harvest, and various other public/private agencies and organizations

**DC READS PROGRAMS PARTNERS: (provided site, food, and children to be served)**

Robert Blaine, PhD Director, Team Afterschool Programs	Cheryl Fellenz, Reading Specialist  Carol Parks
Albright TEAM Center	
Emory United Methodist Church Team Afterschool Program	Americorp NCCC Aziekwe Chandler
Mrs. Philoma Logan, Program Director Randall Cares Afterschool Program	Col. R. Norman N. Johnson, Director Idea Public Charter School

**C. Program Review Process**

There have been no significant changes in the program review processes since the 5-Year Plan of Work.

**Research**

The progress of each research project is reviewed to ensure researchers are accomplishing the objective of their project. There has been more focus on and request for research and integrated activities that revolve around the District of Columbia’s Mayor’s priorities. The priorities are closely aligned with USDA’s the National Goals. There have basically been no changes in the AES’s Program Review process. We have had three new submissions of proposals focused on some of the urban problems of the District of Columbia – diabetes, asthma/pollution, and youth crimes.

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 issues germane to an urban environment. The Peer Review has expanded to include not only representatives from the Department of Biological and Environmental Sciences, the Department of Chemistry, the

Department of Physics, the Cooperative Extension Service, the community, state, and local government, but also the Departments of Sociology, Urban Affairs, Criminal Justice, Psychology, and the Water Resources Research Institute. The Peer Review criteria remains, 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
- Outcomes and Impacts
- Appropriate budget for proposed research
- Budget justification

The Experiment Station is in the process of changing the format of the proposal submission to require information pertaining to the logic model to be incorporated in the proposal. The Peer Review Evaluation will be updated to reflect this in order to make the following recommendations: Approved; Approved with Comment; Conditionally Approved; and Deferred or Rejected.

### **Extension**

The UDC Cooperative Extension, along with our Advisory Committees has developed various formal and informal, qualitative and quantitative means to evaluate programs which include:

- Formal/informal Advisory Member Interviews
- Pre-test and post-test
- Volunteer recruitment and retention
- Agency/individual assessments
- Increased participant enrollment
- DC/National Certifications received by participants
- Partner/Collaborators evaluations
- Increased product demand
- Self-administered questionnaires
- Surveys
- Demonstrated Skills acquired by participants
- Proposals Funded
- Health Assessments
- Health Professionals and Participant Feedback
- Written/Oral Evaluations
- Behavioral/Attitudinal Changes
- Observations
- Reading Grade-level Achieved
- Staff Performance Appraisals
- Professional Development/Association Involvement

- Proposal Committee
- Conference Calls, Telephone and Email contacts were also made.
- Feedback from DC Public School Principals and Professional Staff
- Flyers are displayed at the site of programs, at libraries and various other public locations.
- Capital Area Food bank Advocacy Update Newsletter

#### **D. Evaluation of the Success of Multi and Joint Activities**

1. AES and CES continue to develop programs that address the needs of the underserved and underrepresented, particularly the African-American, Asian, Hispanic, Native American, the elderly and the disadvantage population. Our Advisory Leadership Council is committed to assist us in developing research projects and programs that are critical to the residents of the urban District of Columbia.

2. AES and CES have improved our collaborative effort in working on integrated projects while continuously providing quality improvement in our programs.

3. Meetings with AES / CES project and program leaders, every two months, to discuss on progress, problems, and if any assistance is required. The expected outcomes and impact of the projects and programs are found in each of the Key Themes listed under Section F, Integrated Research and Extension Activities.

The following are some examples of our program effectiveness and/or efficiency through publications and presentations a major conferences and as found under some of the Impact Statements in this FY 2005 Annual Report:

- AES publication: “CM-test: An Innovative Divergence Measurement and Its Application in Diabetes Gene Expression Data Analysis.” by Lily R. Liang, Shiyong Lu, Yi Lu, Puneet Dhawan, and Deepak Kumar. Submitted to the IEEE International Conference on Granular Computing. Conference May 10-12, 2006.
- AES: “FM-test: A Fuzzy Set Theory Based Approach for the Identification of Diabetes Genes.” by Yi Lu, Shiyong, Lily R. Liang, and Deepak Kumar. Submitted to Symposium of Computation in Bioinformatics and Bioscience.
- AES: “Effects of pH on the Speciation of Several Triorganotin Compounds in Anacostia River Sediments Using Mossbauer Spectroscopy. By X. Song, A. Zapata, L. May and George eng. Main Group Chem.
- “FM-test: A Fuzzy Set Theory Based Approach for the Identification of Diabetes Genes” by Yi Lu, Shiyong Lu, Lily R. Liang, and Deepak Kumar. Accepted by IEEE Symposium of Computations in Bioinformatics and Bioscience (SCBB06) – Conference to be held in Hangzhou, China on June 22-26, 2006.
- Conference and Poster Session at the Society for Community Research and Action 10<sup>th</sup> Biennial Conference; June 9-12, 2005. Promoting Stress Resistance and Psychological Empowerment. Dr. Kathleen Dockett.
- SGI-USA Culture Department Annual Conference. Presentation: Promoting Psychological Empowerment, Hardiness, and Well-Being. Dr. Kathleen Dockett.

#### **E. Multistate Extension Activities**

The multi-state project with Cornell University has expanded into two additional program opportunities for DC teachers, schools and youth under the coordination of our DC AITC component; and, the Landscape and Pesticide Training project with the regional EPA and Washington Area Metropolitan Transit Authority.

## **GOAL I: AN AGRICULTURAL SYSTEM THAT IS HIGHLY COMPETITIVE IN THE GLOBAL ECONOMY**

### **Key Theme: Urban Gardening**

**a. Description:** In partnership with University of Maryland, Virginia Tech University and the Washington Metropolitan Transit Authority (WMATA), UDC Cooperative Extension Service coordinated and facilitated a three week Advanced Landscape Training for the WMATA employees. The curriculum included the following topics: pesticide training, basic plant taxonomy and root uptake, plant I.D., turf grass management, pruning, B&B and container installation methods, and tree and shrub fertilization and care of material for first year of planting.

**b. Impact:** Five hundred and sixty-two Junior Master Gardeners had their own outdoor vegetable garden plots to plant, maintain, and harvest. The garden harvests were shared with family, as well with the DC Central Kitchen, where the homeless shelters in the District of Columbia received their food. One new registered Junior Master Group was formed in partnership with Transitional Housing Corporation. This corporation is a faith-based non profit partnership that provides housing and comprehensive support services to homeless and at-risk families so that they can make transformational changes in their lives. Forty Master Gardeners were trained at UDC.

Master Gardeners provided 1,860 hours of horticultural expertise to the District of Columbia. Sixty landscape employees of the Washington Metropolitan Transit Authority (WMATA) were trained. The training is mandatory for employees who wish to be promoted. WMATA maintains 3,000 acres of land in the Washington Metropolitan Area. Master Gardeners completed a final exam and 50 hours of volunteer hours. Approximately five WMATA employees were promoted after the mandatory training. Because of the impact of this training the UDC CES Horticulturalist has been contracted on an annual basis by the WMATA to provide their employees with Advanced Landscape training.

**c. Funding:** Smith-Lever/State Matching Funds/Fee Based Training/Registration Fees

**d. Scope:** State Specific

## **GOAL II. GREATER HARMONY BETWEEN AGRICULTURE AND THE ENVIRONMENT**

**a. Description:** Agriculture in the Classroom (AITC) continued its partnership with Cornell University's Connecting Kids to the Food Systems Initiative, Kids Growing Food (KGF) by adding 5 more DC Public Elementary Schools during this fiscal year. Since the idea of food gardening became popular, AITC decided to use KGF as an incentive for teachers to participate in this school year's after school program. The AITC/KGF program is an after school teacher training program that provides activities and resources to DC teachers and students that increase

agricultural literacy and awareness. The purpose of the program is to expand participant's knowledge base and skills in the field of Agriculture through the "Agriculture in the Classroom" approach and to prepare participants for job awareness opportunities in agriculture and related fields. The terminal goal is to infuse agriculture content into the curriculum in all DC Public Schools. Food gardens continue to be the focus for KGF and is the vehicle used as a strategy to help students understand where food come from, how it grows and to help them make healthy food choices. TUNA was a five module three day workshop for a dozen teachers who were graduates of the AITC program. **b. Impact:** Eight teachers completed at least six of the eight workshop training sessions. Each teacher wrote at least two lesson plans that tie in with the DC Standards of Learning. At least 80 telephone conferences were conducted regarding AITC activities or potential activities. AITC and KGF information was presented at the 2005 Smithsonian Folklife Festival. Being on the Smithsonian Mall in Washington, D.C. is not the typical place you would hear a presentation on AITC or KGF but approximately 200 people joined us during the three different one hour sessions on the topic: Food for Thought: Teaching Children about Good food. Each session generated active participation and discussion. Educators, parents, grandparents and children were the beneficiaries of our efforts. Nine teachers completed the three day TUNA workshop. We observed at least six of the TUNA teachers teaching lesson plans they developed about nutrition and agriculture. Through a collaborative plan involving American Institute of Wine and Food/ DC Chapter of Days of Taste, Fresh Farm Markets, Warner-Hansen Public Television and AITC/KGF, approximately 180 DC students and 6 teacher and adult volunteers were beneficiaries of DC Renowned Chefs in the Classroom providing hands-on lesson with food. It is noteworthy that the collaborative group has been meeting every other month since November, '05. At our February, '06 planning meeting, we agreed on the name "FoodPrints" and established a timeline of activities for the collaborative effort of the partnership. FoodPrints first activity during this school year is an Essay Contest which will take place during National Ag Week in four of the following AITC/KGF elementary schools: Bowen (W2), Webb (W5), Ludlow Taylor (W6) and Seaton (W2). The target grade levels in each school are 4<sup>th</sup> and 5<sup>th</sup> graders, hence; approximately 322 students and fourteen teachers will participate. Students will be given a choice of two themes: "Share your favorite family recipe and tell us who it comes from in your family and what you remember about them" or "Tell a story of a food that you or someone in your family grew". Those choosing the recipe project will include the recipe as part of the essay.

**c. Funding:** Smith-Lever; Matching Funds

**d. Scope:** State Specific

## **F. Integrated Research and Extension Activities**

### **GOAL III: A HEALTHY, WELL-NOURISHED POPULATION**

A national priority is the maintenance of health and functional independence of older adults. Nutritional deficiencies are a greater risk among the elderly, especially in low-income elderly. Caloric intake and selection of nutrient rich foods is vital to the diets of the elderly. Many elderly diets do not provide the level of nutrients needed for the elderly to maintain a healthy body. As the fastest growing segment of the population, the elderly are most susceptible to many health risks from a nutrient poor diet. It is essential for the elderly to include more fruits,

vegetables, and whole grain in their diet in order to maintain a healthy body and reduce the risk of chronic and acute diseases. Thus, an intervention approach is necessary to address factors contributing to low nutrient intake and little or no physical activity.

**Key Theme: Human Nutrition**

**a. Description:** Dietary deficiencies and poor dietary choices can aggravate, and in some cases cause hypertension and cardiovascular disease; diabetes; cancer, and obesity. These conditions are responsible for morbidity and mortality in a significant proportion of the elderly population. Four research questions are addressed in the current phase of the Agricultural Experiment Station's human nutrition multi-state research project, NE-1023. These questions are: To what extent do older adults eat quantities of fruits, vegetables, and whole grains as recommended by USDA Guidelines? What is the level of nutritional knowledge related to the health benefits of fruits, vegetables, and whole grains? How are food choices and eating behavior affected by significant life changes? How do nutritional knowledge and diagnosis of illness affect food choices and eating behavior? Data is being collected using a field tested survey instrument, together with a seven day food diary. Approximately 100 subjects are being identified at the Armed Forces Retirement Home in Washington, D.C. This group will include 20 residents of Gulfport, Mississippi who are living in the Washington facility until they can return to their homes destroyed by Hurricane Katrina. An additional 25 subjects have been recruited from churches and senior citizen centers in the Washington area. The Agricultural Experiment Station continues its involvement in multi-state research to address national issues such as human nutrition. Nutrition is an important determinant of health in elderly adults.

**b. Impact:** Results of this study will be used to design appropriate intervention programs to improve dietary choices, related to fruits, vegetables, and whole grains, and increased physical activity, with the intention of improving health status in elderly Americans and enhancing their overall quality of life.

**c. Funding:** Hatch

**d. Scope:** Multistate; Integrated Research and Extension

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

As an effort to protect sensitive areas such as where ground water is near the surface; near schools, hospitals, and playgrounds; wildlife; parks; and ornamental and vegetable gardens from the effects of chemical treatments used in pesticide management, the Agricultural Experiment Station is conducting research and promoting techniques that support the use of non-chemical means to prevent and manage pest infestation. Sustainable agricultural practices does not entail giving up all usage of pesticides and herbicides, but involves the employment of practices using beneficial insects, the planting of cover crops and the application of mulch or compost. Further, the application of sustainable agriculture techniques is also being studied in the reuse of industrial organic waste such as biosolids.

**Key Theme: Integrated Pest Management in Urban Gardens**



- a. Description:** Gardeners in the Washington Metropolitan area have serious problems with the Mexican and cucumber beetles in their squash and cucumber production. Several diseases are also affecting the production of tomato, cabbage, lettuce, broccoli and cauliflower. Among these diseases are anthracnose, fusarium wilt, blossom end rot, damping off and various other fungus infections. Many of the gardeners in the District of Columbia are reluctant to use chemical pesticides to control insects and diseases. The IR-4 project is an interregional project which deals with testing, recommending, and monitoring the use of pesticides for minor use crops (vegetables and ornamentals). The IR-4 project is closely allied with the sustainable agriculture project in the area of integrated pest management.
- b. Impact:** Urban gardeners, extension agents and other agriculturally related para-professionals are able to apply low input techniques to maintain ornamental and vegetable gardens without the use of harmful chemicals that may affect the their health, the environment, food, and other plants.
- c. Funding:** Matching Funds; Grant
- d. Scope:** Multistate; Integrated Research and Extension

**Key Theme: Sustainable Agriculture**

- a. Description:** Urban gardening is an important activity in the lives of residents in the District of Columbia, including youth and seniors. The project provided training, demonstrations, and field trips to assist novice and master gardeners, lawn technicians, teachers, and extension agents with establishing and maintaining vegetable and ornamental projects in both cool and warm seasons in the District of Columbia. Training focused on teaching residents the appropriate use of low input techniques such as using cow manure and composted yard waste as soil amendments for growing crops in an urban environment. Teachers participating in the “Ag in the Classroom” program received training in the use of low input techniques for growing fruits and vegetables in urban areas in the District of Columbia. These teachers, in turn, have developed garden projects in order to educate their students on the principles of sustainable agriculture and generate an interest in gardening that is safe for residents and the environment within their communities.
- b. Impact:** Through teaching, demonstration, field trips, and dissemination of gardening techniques/tips, home and master gardeners, teachers, extension agents, and lawn technicians have increased knowledge of sustainable planting techniques in establishing and maintaining vegetable, fruit, and ornamental gardens. Further, the use of their knowledge to assist others can motivate members in their communities to start gardening. As a result, more residents are able to enjoy fresh fruits and vegetables from their own gardens while reducing the impact on our environment.
- c. Funding:** USDA Grant; Hatch
- d. Scope:** Multistate; Integrated Research and Extension

**Key Theme: Sustainable Agriculture**

- a. Description:** The Agricultural Experiment Station is participating with University counterparts in sustainable agriculture research on the use of chicken manure for crop production. Specifically, the Poultry manure produced from Delaware, Maryland, and Virginia (DELMARVA) poultry industries is applied on farmland along with chemical fertilizer for crop

production. The manure transport program pays for movement of manure from farms over-enriched in soil. Cover crops in statewide cost-share programs help recycle unused nutrients in the dormant portion of the crop production cycle. Perdue AgriRecycle, Inc. has cleaned, sterilized, and palletized poultry manure for easy handling and movement in crop and vegetable production. Residents of Washington, DC grow vegetables in their backyards and could potentially use this material as a soil amendment. This experiment is designed to determine the effectiveness of palletized poultry manure as a soil amendment in vegetable production and its potential effect on DC water resources.

**b. Impact:** Cultural techniques developed has allowed some urban gardeners that they can use poultry manure on crops, such as collards, butterbeans, and rye, without causing nutrients like nitrogen and phosphorous to leach into our waterways. This is the beginning of helping to keep our water resources safe and clean; increase crop production; and produce vegetables of higher nutritional contents. Residents will not only benefit from fresh and healthy crops but also protect the urban environment in the District of Columbia. Information generated will be used for extension and outreach to benefit the residents of the District of Columbia.

**c. Funding:** Hatch; US Geological Survey

**d. Scope:** Multistate; Integrated Research; Water Resources Research Institute

## **FY 2005 Civil Rights Accomplishment Report**

### **Equal Employment Opportunity**

The Agricultural Experiment Station (AES) and the Cooperative Extension Service (CES) continue the practice of Equal Employment Opportunity at the University of the District of Columbia. AES did not hire any new staff, however one AES employee retired. All AES and CES staff members are hired based on their qualifications, which are the established employment personnel practice. All staff employees participated in the Annual Performance Appraisal process.

Two additional CES program staff members were hired: one full-time Black male Project Assistant and one full-time Black female Project Assistant for the development of DC Reads Program through the CYFAR grant. Several student interns were also hired to expand the resources and programming efforts of our CES educational offerings.

### **Staff Development**

Improving staff development, as it relates to performance, is essential for AES and CES employees. AES employees were given the opportunity for growth and development through “team building” and “customer service” exercised during their scheduled unit meetings.

CES staff was continuously given the opportunity to enroll in courses at the University, one of whom has completed his MBA. All CES program and support staff members were offered the opportunity to attend staff development sessions during FY 2005. Staffs on all levels attended at least one training session during this reporting period. Members of the CES staff received Civil Rights Compliance training and review in FY’05.

Most AES and CES staff have received the newly instituted DC procurement “PASS” electronic processing training, however one new AES staff member received initial training.

### **Program Delivery**

Consistent with AES and CES mission, program delivery still targets the at-risk and underserved population of the District of Columbia. AES is also working with many of the DC Public Schools, especially in Wards 7 and 8, ANC Commissioners, and community organizations to increase their knowledge and awareness of our projects/programs. AES has further extended its partnerships to include Howard University, the ARC, the Washington East Foundation, and the Clara Mohammed School and the 21<sup>st</sup> Century Grant.

The DC READS program recruited, hired and trained five new Hispanic tutors to work in the program and, a Hispanic student was the senior tutor at one of our sites. We also had brochures and registration forms printed in Spanish. A student was hired to work with a Hispanic team in the LifeSmarts program.

Some of CES’s partners include, Community and Religious based groups, D.C. Housing and

Finance, National Cooperatives Association, TEAM After-School- program, The D.C. Chinese Center, regional and local Americorp, National Arboretum, The National Zoo, the Cornell University, D.C. Public Schools, United Planning Organizations, Project Harvest, Deaf Reach, National Consumer League, AARP, Non-commercial food service providers, Employer sites, Day Care Centers, Food Service Industry, Latin American Youth Association, Asian American Youth Association.

Special needs groups such as the homeless, diabetics and ethnic minorities have been served through the ethnic minorities congregate at certain sites and locations. Every effort is made to reach them at these sites.

CRED made special efforts to reach underserved groups in the District of Columbia by participating with the Hispanic and Korean Council. With the Hispanic/Latino group the Unit assisted with the DC Government/ Hispanic festival, which brought out 15,000 and with the DC Department of Employment Services CRED work with the Council on the issues of local jobs for neighborhood members. With IRS-VITA, CRED passed out income tax information in 7 languages and had a series of program information produced in Spanish.

The Pest Management and Public Health program is delivered to house-holds that are referred to us by the DC Asthma Coalition and community groups.

This year the 4-H/Youth Development Program sought to include youth and adult partners from each of the 8 wards of the city. In wards 6,7, and 8 there are particularly depressed areas which are purposefully included in our program delivery. We further sought through referrals, to reach a variety of ethnic groups as well as youth with diverse backgrounds, which was achieved with the initiation of 4-H clubs in the District of Columbia Public School System. Two such examples are found in John Eaton Elementary School and Roosevelt Senior High School clubs in wards 3 and 4 respectively. Both schools have a large percentage of students of varying ethnic backgrounds to include, but are not limited to: Hispanics, African, West Indian, and Caucasian students.

### **Public Notification**

AES/CES's Official Nondiscrimination Statement is still the same: In cooperation with the U.S. Department of Agriculture and the District of Columbia Government, Cooperative Extension and Agricultural Experiment Station programs and employment opportunities are available to all people regardless of race, color, national origin, gender, religion, age, disability, political beliefs, sexual orientation, marital status or family status. AES and CES continue their efforts to assure our clientele are well informed of our activities, program, and research projects. We continue to introduce flyers, brochures, newsletters, press releases, articles, public service announcements, radio, public/private/cable television, and written materials that were translated for our Hispanic and Asian communities. Materials were also posted in libraries, schools, clinic, doctor's offices, at a variety of community workshops, the university's open house and the university's career day.

The Agricultural Experiment Station continues its efforts in producing fact sheets, reports, brochures, INFODOC publications, and workshops that extend information to the general public

regarding our research, experiments, investigative activities, educational and training activities, and outreach. AES also redesigned its Web Page for more accessible information.

Programs and activities were publicized on channel 19 (the local cable network), the Cooperative Extension Service Newsletter, the University's website as well as civic associations newsletters. DC Reads program banner was raised in the MCI Center during several Washington Wizard's Basketball home games. The children that attend the Randall Memorial United Methodist Church participated.

Whenever possible, educational and informational material is provided in the appropriate language, and/or interpreters are made available.

Equal opportunity and non-discrimination statements were placed on all educational materials released to the public. All programs, activities and research projects continue to be conducted in barrier free buildings at a variety of locations throughout the city in an effort to accommodate clientele with physical limitations.

Our diverse audiences and special interest clientele still include limited resource audience, youth at risk, underrepresented, single mothers, homeless women and men, and Asian and Hispanic residents. Additionally, several publications were issued through mass mailings.

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.

### **Civil Rights Training**

There was no Civil Rights training during the Fiscal Year 2005 due to the retirement of our EEO monitor, however an individual is being sought for this responsibility. We hope to schedule a Civil Rights Training session during the Fiscal Year 2006.

### **On-Site Civil Rights Compliance Reviews**

There was an on-site compliance review conducted with the Cooperative Extension Service during the week of March 21-25, 2005 to determine whether or not UDC-CES is in compliance with nondiscrimination and equal opportunity regulations. Information provided included participation data, plans of work in major program areas, outreach efforts being carried out to reach underserved populations, work being done in youth development, nutrition, family and consumer science, environment and natural resources, including housing and environment programs. The CSREES Equal Opportunity Specialist examined policies and procedures as well as the implementation and delivery of programs to eligible clientele to determine the extent of compliance.

At the time of the review, there were a total of 29 Extension employees. Based on information gathered, preliminary findings were developed and discussed at an exit conference on March 24, 2005 with CES leadership and Specialists.

## Deficiencies Found

- Interviews with staff revealed that some have limited knowledge of civil rights laws. Staff were not totally familiar with the requirements for implementing affirmative action and equal opportunity in Extension Programs.
- Interviews revealed that not all staff had a written process for program complaints, nor were they totally familiar with the process.
- Interviews and record examination showed little evidence that Extension staff members were notifying private organizations and groups of Extension requirements for nondiscrimination.
- There was little evidence that Extension was informing disabled customers of the requirements for reasonable accommodation. There were no procedures in place to guide staff members in the accommodation of customers with disabilities.

## Actions Taken

- CES EEO monitor retired in June 2005, however, the Compliance review report was disseminated to each employee for review. A CES internal Civil Rights Compliance Review committee of three specialists, three agents and one support staff was established to review the findings and recommendations to determine effective implementation.
- The committee presented a report to the Director of CES and a discussion with all employees was held regarding deficiencies found and implementation of all recommendations.
- CES is in the process of training a new EEO Monitor.

## District of Columbia – University of the District of Columbia-1862

### 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
<b>2000-2004 Projected</b>	(145,014) 27.0%	(327,081) 61.0%	(998) 1.0 %	(43,332) 8.0%	(17,503) 3.0%	(533,928) 100%
<b>2005 Actual</b>	(8,006) 5.84%	(124,211) 90.6%	(42) 0.03%	(4,422) 3.22%	(496) 0.36%	(137,177) 100%

### Clientele Contacts by Gender

Gender/Year	Male	Female	Total
<b>2000-2004 Projected</b>	(213,571) 40%	(320,357) 60%	(533,928) 100%
<b>2005 Actual</b>	(56,638) 41.3%	(80,539) 58.7%	(137,177) 100%

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**MULTISTATE EXTENSION ACTIVITIES AND  
INTEGRATED ACTIVITIES  
Appendix C**



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 WASHINGTON, D.C.

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

Title of Planned Program/Activity	Actual Expenditures				
	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
<u>Improving Plant Food (Fruit, Vegetables and Whole Grain) Availability and Intake in Older Adults</u>	<u>104,876</u>	_____	_____	_____	_____
<u>Sustainable Agriculture</u>	<u>15,000</u>	_____	_____	_____	_____
<u>Muirkirk Farm Project</u>	<u>15,000</u>	_____	_____	_____	_____
<u>General Administration</u>	<u>10,000</u>	_____	_____	_____	_____
<u>Adopt-A-Block Life Science Project</u>	<u>15,000</u>	_____	_____	_____	_____
<u>Integrated Pest Management</u>	<u>5,000</u>	_____	_____	_____	_____
<u>Urban Gardening</u>	<u>3,000</u>	_____	_____	_____	_____
<u>Pelletized Poultry Manure Project</u>	<u>5,000</u>	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
<b>Total</b>	<u><b>172,876</b></u>	_____	_____	_____	_____

\_\_\_\_\_  
 Director

\_\_\_\_\_  
 Date



