

DISTRICT OF COLUMBIA

COOPERATIVE EXTENSION

AGRICULTURAL EXPERIMENT STATION

FY 2001

JOINT ANNUAL REPORT

OF

ACCOMPLISHMENTS AND RESULTS

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UNIVERSITY OF THE DISTRICT OF COLUMBIA

District of Columbia
Cooperative Extension Service and Agricultural Experiment Station
FY 2001 JOINT ANNUAL REPORT OF ACCOMPLISHMENTS AND RESULTS

TABLE OF CONTENTS

Introduction

A. FY 2001 Annual Report of Accomplishments and Results

B. Stakeholder Input Process

C. Program Review Process

D. Evaluation of the Success of Multi and Joint Activities

E. Multistate Extension Activities

F. Integrated Research and Extension Activities

District of Columbia

Cooperative Extension Service and Agricultural Experiment Station

FY 2001 JOINT ANNUAL REPORT OF ACCOMPLISHMENTS AND RESULTS

INTRODUCTION

This Joint Annual Report of Accomplishments and Results for FY 2001 is the second annual report required under the Agricultural Research, Extension and Education Reform Act of 1998. The Cooperative Extension Service delivered to the residents of the District, practical knowledge through applied research, that is, practical education and training through technical assistance, activities, classes, workshops, seminars, and conferences. The Agricultural Experiment Station undertook research that impacted the people of the District of Columbia, and the impact of the findings is to be multiplied through the publication of the results.

Integrated Programs, a shared effort of Cooperative Extension and the Agricultural Experiment Station, Multistate and Agency collaborations, and Private Partnerships contributed to the high quality of Extension's offerings. During this reporting period, a professional Extension staff of thirteen served in excess of 17,000 residents. Conservative extrapolated data suggest that during FY 2001, the Extension Service impacted 20% (113,000) of the District's resident population.

Research and Extension offerings reflected national goals and local priorities to achieve:

I. An Agricultural System that is Highly Competitive in the Global Economy

§ Home Lawn and Gardening

§ Urban Gardening

I. A Safe and Secure Food and Fiber System

§ Food Safety

§ Food Quality

I. A Healthy, Well-Nourished Population

§ Human Health

§ Human Nutrition

I. An Agricultural System which Protects Natural Resources and the Environment

- § Integrated Pest Management
- § Sustainable Agriculture
- § Recycling
- § Soil Quality
- § Water Quality

I. Enhanced Economic Opportunity and Quality of Life for Americans

- § Community Economic Development
- § Leadership Training and Development

The Cooperative Extension Service is the premiere community engagement mechanism of the University of the District of Columbia. The Extension Service engaged the District's communities by having residents identify concerns and needs through focused conversations, interviews, and self-administered questionnaires. A twenty-four member Leadership Advisory Council consisting of two citizens from each of the eight District Wards and eight At-Large members advised both Research and Extension on the areas of concern and need that it believed would best serve the people of Washington, D.C.

This joint annual report includes only those accomplishments under the respective goals that indicate measurable actual impact.

Cooperative Extension offerings were evaluated for customer satisfaction, impact, and quality. Each program specialist and agent monitored the evaluative criteria through informal observations, random interviews, and self-administered questionnaires depending on the program activity.

The Director and Associate Director of the Research Station assess the progress of each research project on an annual basis for three year projects. The assessment ensures that the project is on target and accomplishing the stated objectives. The assessment is shared with the principle investigator and modifications are made if necessary to meet the objectives of the project. Peer review of the research projects was undertaken.

Research and Extension are eager to engage in integrated and multistate projects and activities that have actual impact on the citizens we serve.

A. FY 2001 Annual Report of 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 and Urban Gardening Services to the residents of the District.

A high-demand Home Lawn and Gardening Assessment Program was initiated and the Soil Testing Service was expanded to increase service capacity 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.

Outcomes assessments of these programs supported the five-year Plan of Work. Fiscal Year 2001 accomplishments exceeded the expectations identified in the Plan of Work.

Hatch Act Funds, Smith-Lever Act Funds, State Funds, and private funds were expended on this goal at a cost of \$103,811. Full-Time Equivalent of 1.25 personnel were utilized to support this goal.

Key Theme: Home Lawn and Gardening

- a. **Description.** The lawns and gardens of District residents are exposed to a variety of environmental substances and conditions that have affected the residents' quality of life. This program provided technical assistance to homeowners and some renters as well as to neighborhood associations seeking advice on the beautification of the public spaces within their neighborhoods. This highly visible program was implemented during the last quarter by a newly employed horticulturalist.
- b. **Impact.** Direct technical assistance and instruction were provided through residential and commercial site assessment visits, telephone consultations and other educational methods. Twelve (12) site assessments provided assistance to area public & private facilities to determine diseases and/or the conditions of lawns, trees, plants and shrubs, yielding

recommendations for treatment, pruning, removal, and transplanting, as well as suggestions for alternative landscaping design plans to beautify and save the environmental welfare of the areas. It is estimated that this program impacted twelve 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 140 hours.

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

Key Theme: Urban Gardening

- a. **Description.** The Urban Gardening Program exposes youth to principles of horticulture to increase awareness and educational opportunities through the study of agriculture. This program provided inner-city youth with hands-on horticultural skills training and environmental experiences that instilled a sense of empowerment and accomplishment.
- b. **Impact.** Forty DC children had their own outdoor vegetable garden plots to plant, maintain and harvest. The garden harvests were shared with family, as well as with the DC Central Kitchen. The vegetables also helped to feed the victims of a late summer flood disaster. The Red Cross Disaster Relief recognized these youth for their humanitarian efforts.
- c. **Funding.** Smith-Lever/State Matching Funds
- d. **Scope.** State Specific

GOAL II: A SAFE AND SECURE FOOD AND FIBER SYSTEM

Overview

This goal was addressed by education and training offered through formal training and research supported by Smith-Lever Funds, Hatch funds and private donations. Smith-Lever and other federal funds supported training of elderly participants, food handlers, and nutritionists in food safety techniques. One-hundred percent (100%) of the nutritionists passed the Food Sanitation Certification National Exam.

Food Handler training was conducted to meet a District of Columbia requirement under the 1999 Federal Food Code. This program targeted non-profit, small non-commercial, and “casual” food sites

which included churches, daycare facilities, food banks, and shelters. One-hundred three (103) second level food handlers from 68 District community -based facilities were trained.

“Fighting BAC in the Nation’s Capital” was a food safety education conference that reached 600 individuals from fifty-nine community organizations. Funding for the conference was provided by USDA/CSREES National Food Safety Initiative.

Of several CES offerings related to this goal, these programs were assessed as having outcomes that have a significant impact of the trainees, and their thousands of customers in the District of Columbia.

The total cost of these programs was \$190,000 and 2.3 full time equivalent personnel were utilized.

Key Theme: Food Safety

- a. **Description.** The Food Safety Support for the Elderly Project was designed to add value to the DC Office on Aging programs by increasing the capacity of the Office on Aging to provide the level of food safety education and training needed to meet the standards of the 1999 Federal Food Code. It was also designed to ensure that the risk of food-borne illnesses is significantly reduced in the low-income, at-risk elderly population in the District of Columbia. The 819 subjects included 762 elderly participants, 48 food handlers (paid and volunteers), and 9 Nutritionists from 64 congregate meal sites. The tri-level system of "train-the-trainer" methodology was used to provide the food safety education for the congregate meal program sites. The methodology was developed, implemented and evaluated by the project. A UDC/CES nutritionist was certified as a Food Safety Sanitation Certification Instructor who provided Level 1 training to the nutritionists employed by the District-wide elderly meals program. The trained nutritionists provided Level 2 training for the food handlers, and the food handlers provided Level 3 training for the elderly participants. The 810 food handlers and elderly participants were low-income and high-risk individuals.
- b. **Impact.** 100% of the nutritionists passed the Food Sanitation Certification National Examination; 33% of the nutritionists became Certified Instructors for the course.
- c. **Funding.** Department of Health and Human Services, Administration for Children and Families, Office of Community Services (DHHS/ACF/OCS) - \$50,000.00
- d. **Scope.** State Specific

Key Theme: Food Handling

- a. **Description.** The Food Handler Education for Small Non-Commercial Service Agencies Project was designed to provide mandatory training for food handlers in the District of Columbia in order to meet the standards of the 1999 Federal Food Code. The purpose of the program was to target non-profit, small non-commercial, and “casual” food sites, which

included: churches, daycare facilities, soup kitchens, food banks, shelters, and meals programs for the elderly in order to assist them with improving their capacity to provide food service in the District. The 15-clock hour course provided accurate, up-to-date information for all levels of food service employees on all aspects of handling food from receiving and storing to preparing and serving. The course content identified conditions that promote food-borne illnesses and demonstrated techniques to correct the potential hazardous conditions. A Pre-test and post-test were administered to each participant to determine program impact and a national certification examination was administered immediately following the completion of the course work. Individuals who passed the examination received a certificate from the National Restaurant Association Foundation, automatic membership in the International Food Safety Council, and a certified card from the DC Regulatory Affairs valid for three years.

- b. **Impact.** One-hundred-three (103) second level food handlers from 68 District community-based, non-profit facilities were trained in the Food Safety Sanitation Certification course. Eighty-five percent (87) of participants were female and fifteen percent (16) were male. The participants were between 19 - 80 years of age. Forty percent (40%) of the participants were between 41 - 50 years of age.
- c. **Funding.** USDA/CSREES National Food Safety Initiative-\$60,000.00
- d. **Scope.** State Specific

Key Theme: Foodborne Pathogen Protection

- a. **Description.** The DC Coalition for Food Safety Education Project provided a District-wide conference on food safety education. The conference title was “Fighting BAC in the Nation’s Capital – Community Food Safety Awareness and Action”. The conference provided a mechanism through which individuals in the food safety network received expert state-of-the-art information concerning food safety, established relationships with other members of the network, and interacted as a collaborative to create community-based solutions to food safety issues in the Nation’s Capital. The conference attendees included registered dietitians, certified dietary managers, and individuals working in the Food Service Industry (Commercial and Non-Commercial). Registered dietitians and certified Dietary Managers received six (6) Continuing Professional Education Units. The conference reached 600 individuals from 59 community organizations. The second component of the project was to develop an electronic food safety lending resource center for community residents. A space has been identified in Building 52, Room B0-4 on UDC campus.
- b. **Impact.** CES increased its network of organizations by 20 new agencies, 93% of the conference participants completing the evaluation form were pleased with the registration procedures, 100% were satisfied with the cost of the conference, 98% were pleased with the

conference speakers, 96% approved of the information provided by our Federal partners, 97% approved of the information provided on the 1999 Federal Food Code, 97% stated that the time provided for networking was very beneficial, 100% gained an understanding of the requirements for Food Sanitation Certification Training, 95% approved of the educational content of the conference.

- c. **Funding.** USDA/CSREES National Food Safety Initiative
- d. **Scope.** State Specific

Key Theme: Hazard Analysis, Critical Control Point (HACCP)

- a. **Description.** A resource brochure was developed, “HACCP-the Home Version” for use by individuals and families, and utilized the “Clean Hands” program for Hispanic and other DC youth. These programs have made the HACCP concept user-friendly for all customers.
- b. **Impact.** One thousand (1,000) program participants increased their awareness and knowledge of the HACCP concept, with a rippling effect of 100%, and an estimated financial impact on health and safety cost savings of \$50,000.
- c. **Funding.** Smith-Lever
- d. **Scope.** State Specific

GOAL III: A HEALTHY, WELL-NOURISHED POPULATION

Overview

The Extension Service promoted a healthy, well-nourished population through programming generically identified as “Nutrition on Demand.” Programs were established to meet the requests of the community for appropriate and accurate nutrition and food safety information. Programming provided under “Nutrition on Demand” enabled our underserved and unrepresented customers (Hispanic youth and adults, seniors from Jewish and other community centers, homeless diabetes living in a shelter, obese youth of Hispanic and African-American heritage) and others to gain valuable skills and knowledge to maintain a safe and healthy lifestyle for themselves and their families.

Childhood obesity and diabetes have become major concerns of the residents of the District, especially in the Hispanic and African-American communities. Extension collaborated with health

professionals, public and private agencies, advocates, and food retailers (Safeway, Giant, and Fresh Fields and Whole Food Markets) to provide training and service. A CES Specialist is a member of the Metropolitan Multi-State Diabetes Action Committee working to advance awareness, prevention and health assistance. Diabetes in the homeless population and the nutritional needs of the HIV population have demanded the health community's attention. Extension made a significant contribution to these collaborative efforts. The cost of programs supporting this goal was \$281,608. The full-time equivalent personnel assigned to this goal were 3.92.

Key Theme: Human Nutrition

- a. **Description.** The "5 A Day" program is a two-hour Community Nutrition Program that taught persons of various ages how to incorporate a combination of five fruits and vegetables a day into their daily regimen. The benefits of reducing cardiovascular disease, some cancers, hypertension and obesity were discussed in the program. Games identifying foods that are part of the "5 A Day" concept were played. "5 A Day" recipes were given to the group as well as instructions in realistic goal setting. Body Composition details were given and discussed with those persons who wanted a personal assessment of their body fat, lean weight, metabolic rate. Weight loss goals were recommended if they were requested. The program was presented to participants at the ten 21st Century Community Learning Centers located in middle schools throughout the District and to community groups within the city.
- b. **Impact.** 1,100 participants, along with their families and caregivers, gained knowledge to promote good nutrition and healthier diets, and change attitudes & behaviors, which will affect their lives and others. The cost savings in medical equipment and health cost is estimated at \$97,000. Twenty-one percent (21%) of the participants were consuming the recommended number of servings before the course was presented, 100% of the participants stated that they were going to start to consume the recommended number of servings of fruits and vegetables daily, 91% increased their knowledge on the importance of eating fruits and vegetables
- c. **Funding.** Smith-Lever
- d. **Scope.** State Specific

Key Theme: Human Nutrition

- a. **Description.** The Agricultural Experiment Station’s Multi-state project, “Nutritional Risk and Antioxidant Status in the Elderly,” is designed to improve methods of assessing dietary patterns and nutrient intakes of the elderly, as well as the antioxidant compounds in the diet and body. Previous and ongoing research on nutritional risk and antioxidant status in the elderly has established correlations between specified behavior constructs and dietary choices. From these studies, it is possible to describe quantitative measures of association between these behavioral constructs and measures of dietary quantities of selected nutrients. Qualitative case studies are now being conducted in an effort to reveal deep, thorough, and contextual insights into individuals and their behavior. Furthermore, these studies can uncover interactions of individuals with circumstances and environment, and are often suggestive of future quantitative variable analysis. Data from case study analysis to date suggests strongly that eating habits may be influenced more by dietary knowledge with evidence of impending morbidity rather than by dietary knowledge alone. Food choices among case study subjects are determined by tradition and habit, as well as current knowledge.
- b. **Impact.** Data collected in this study lead to the delineation of specific connections among behaviors and attitudes; nutritional and dietary implications; and resulting health consequences. Awareness of these connections will lead people to food choices which result in reduced incidences of nutrition related morbidity and mortality.
- c. **Funding.** Hatch
- d. **Scope.** Multistate; Integrated Research and Extension

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

OVERVIEW

Research findings from the DC Agricultural Experiment Station if employed by District residents would achieve greater harmony between agriculture (horticulture) and the environment. A major problem for urban gardeners is to increase crop production with inadequate or limited space in a relatively short growing season. Increased crop productivity can be achieved each year on limited land by an *intensive cropping system* that maximizes the amount of time a vegetable crop is produced. Using recycled waste as composted material for soil amendment in crop production increases productivity. The key to garden productivity is soil fertility. The Experiment Station employed sustainable agricultural techniques for establishing and maintaining urban gardens, including the avoidance of chemicals and pesticides. Sustainable agricultural techniques for urban areas were designed and taught to resident gardeners.

Research was conducted to investigate sediment uptake and effects of aquatic biota of two classes of triorganotin compounds with the Anacostia and the Potomac Rivers. Results informed government agencies responsible for water quality.

Research findings informed Extension specialist and agents with knowledge that was passed on to residents to increase community awareness of the impact of chemical pollutants and to encourage the adoption of sustainable techniques.

Extension specialists promoted sustainable agricultural techniques and knowledge about the American agricultural system through Agriculture in the Classroom (AIRC) and Project Learning Tree (PLT). The DC "AIRC" program provided training to elementary school personnel as it has done over the past six years. Building upon that network of educators, Extension specialists updated materials to increase the educational knowledge of the teachers who conveyed it to their students

Program costs to support this goal were \$361,477 with 3.66 full-time equivalent personnel employed.

Key Theme: **Recycling of Composted Waste as Soil Amendments**

- a. **Description.** Disposal of municipal waste is a major environmental problem both in the District of Columbia (DC) and across the USA. It is estimated that more than 150 million tons of municipal solid waste is being produced each year in the USA. In the DC Metropolitan Area, increases in the urban population has resulted in excess accumulation of municipal wastes, while at the same time, available landfill spaces are decreasing. With diminishing storage space available for the safe disposal of these materials, recycling of municipal wastes will not only contribute to solving our waste storage problems, but could also result in providing economical sources of organic soil amendments for the production crops. The Agricultural Experiment Station has attempted to alleviate this problem by recycling the waste as composted material, which is now being used as soil amendments in crop production in the urban gardens of the District of Columbia.
- b. **Impact.** Information obtained from this study and disseminated to the citizens of the District of Columbia has generated considerable interest in the use of composted waste in the growing of vegetables, flowers and other ornamentals. As a result, vegetable gardening in the District has increased by 10-15 percent. This increased activity has resulted in renewed interest as shown by more gardeners getting their soil tested and applying low-input techniques in their crop production system.

Publication: James R. Allen, 2001: Using composted waste as soil amendment for vegetable gardening in the District of Columbia, Agricultural Experiment Station. Publication Series. Vol.2 Issue 4

- c. **Funding.** Hatch
- d. **Scope.** State Specific

Key Theme: Integrated Pest Management (IPM)

- a. **Description.** The use of Integrated Pests Management is used to increase plant yield while at the same time, decrease the dependence of chemicals and pesticides. These methods help to increase plant yield without causing harm to the environment. The study, “Control of the Cowpea Pests Through Natural, Chemical, and Best Management Programs,” evaluates the impact of three IPM practices on insect pest numbers, and yield performances in cowpea *Vigna unguiculata* cv “Pinkeye Purple Hull” and the “California Blackeye Pea No. 5.” The natural control methods use no chemicals to control pests. Chemical control methods employ agricultural chemicals, pesticides, and fertilizers at regular cycles to reduce pests and increase crop yield of plants. The cowpea *Vigna unguiculata* was grown on all three IPM regimens to determine which method produced the greatest plant yield.
- b. **Impact.** Research revealed that while chemical controls produced the highest yield, the fact that there was no significant difference between best management and natural practices indicates that one can apply no chemical to crops and produce the same yield as spraying. Utilizing natural practice in *Vigna unguiculata* can help reduce the amount of pesticides that pollute the environment.

Publication: Carolyn Cousin, J. Grant, F. Dixon, D. Beyene and P. van Berkum.
“Influence of biosolids compost on the bradyrhizobial genotypes recovered from cowpea and soybean nodules.” Archives of Microbiology. January, 2002.

- c. **Funding.** Hatch Funds
- d. **Scope.** State Specific

Key Theme: Water Quality

- a. **Description.** “The Fate and Toxicity of Triorganotin Compounds and Their Interactions with Anacostia and Potomac River Sediments” is a study that investigates sediment uptake and effects of aquatic biota of two classes of triorganotin compounds. Triorganotins were commonly used as the antifoulant agents in marine paints. These compounds have been shown to be toxic to various marine organisms, as well as to the targeted species. Therefore,

it is essential to understand the speciation of these organotins to gain a better understanding of their interactions in the aquatic environment.

- b. **Impact.** A better understanding of the pollutants and their speciation products will provide individuals and government agencies responsible for water quality and planning with the knowledge of the potential hazards of triorganotin compounds.

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

- c. **Funding.** Hatch, State
- d. **Scope.** State Specific

Key Theme: Sustainable Agriculture

- a. **Description.** The use of biosolids for fertilizers will save rapidly diminishing landfill space, replenish nutrients removed from the soil during gardening, prevent erosion, and increase water retention. “Nodulation in *Vigna unguiculata* with *Rhizobium* or *Bradyrhizobium* After Treatment with Biosolids,” is a study to 1) determine the strains of *Bradyrhizobia* in soil amended with biosolids and to compare the genetic diversity among these strains in biosolids treated and untreated soil; and 2) examine nodulation at the cellular level in *V unguiculata* (cowpea) and *Glycine max* (soybean) grown in symbiosis with *Bradyrhizobium* in soil amended with biosolids.

- b. **Impact.** This study will identify the most effective *Bradyrhizobium* strains that will increase nodulation and nitrogen fixation in *Vigna unguiculata*. These strains will be used to increase plant yield for residents in the Metropolitan Area.

Publications: Carolyn Cousin, J. Grant, F. Dixon, D. Beyene and P. van Berkum. Influence of biosolids compost on the bradyrhizobial genotypes recovered from cowpea and soybean nodules. Archives of Microbiology. January, 2002.

- c. **Funding.** Hatch
- d. **Scope.** State Specific

Key Theme: Natural Resources Management

- a. **Description.** For FY 2001, we were able to institute a “whole school system” training format for Project Learning Tree in the City (PLT), whereby we trained administrative staff, teachers, specialists, aides and counselors to maximize the number of educators trained during a six -hour comprehensive series, during regularly established staff development days. We found this to be very successful in reaching a larger audience and retaining participant volunteers for this and other long-term programs.

- b. **Impact.** One-hundred forty-six (146) educators were trained using the whole school approach, with 50 trainees signing up to become facilitators who become trainers for other Educator workshops. A “pilot” pre-service teacher training Educator Workshop was held for 14 students in the UDC Department of Early Childhood Education for training on the use of the “PLT” curriculum guide to be used in their student teaching and future careers. The estimated financial value to the DC Public School system is \$73,000.
- c. **Funding.** USDA/CSREES- \$92,593 (subcontracted \$58,800)
- d. **Scope.** State Specific

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

Overview

The District of Columbia is an urban area with a highly diverse population. Of the more than 500,000 residents, the majority group is African-American followed by growing numbers of Caucasians, Asians, and Hispanics. Although there are no traditional industries, tourism and government are the major economic activities. Much of the land is occupied by federal, local and foreign governments. The District has some of the wealthiest and some of the poorest people in the nation living within its borders. Some of the most highly educated and some of the least educated, occupying the lowest paying jobs, all claim District residency. This divide presents a remarkable challenge to the Extension Service which is expected to provide an array of educational services needed by all the residents. Program offerings and technical services are provided by Community Resource Development and Community Resource Development – Technical. From leadership training to home repair, the programs supporting this goal are some of the most visible programs offered by Extension. Outcomes are often difficult to quantify because the outcomes are related to individual changes and community development which require longitudinal study. However, evaluation through self administered surveys indicates high customer satisfaction. The cost of the programs was \$279,821 with 7.6 full time equivalent personnel assigned.

Key Theme: Leadership Training and Development

- a. **Description.** The purpose of the Extension Service’s CRD Unit is to increase the capacity of communities, families, and individuals to enhance their own economic well being through leadership development. For FY 2001, the Community Resource Development Unit promoted, sponsored and/or participated in 250 events in support of the unit’s mission. The unit directly reached and served 2,104 adults, 912 youth and young adults, and 24,453 persons through mass audiences. The most significant program was with newly released

prisoners. With the use of Smith-Level and private monies and donations, the CRD personnel were able to leverage resources to serve more people.

- b. **Impact.** The benefits derived by the residents are both direct and indirect. Through effective collaboration with public/private agencies and the faith based community, 125 adult Black males released from prison completed a 12 week re-entry program and received jobs upon program completion or continued with higher education.
- c. **Funding.** Smith-Lever/State Matching Funds/Private Donations
- d. **Scope.** State Specific

Key Theme: Family Resource Management

- a. **Description.** The thrust of the programming of the Family and Consumer Sciences Unit was to improve the financial stability of individuals and families through educational opportunities for youth and adults. “LifeSmarts” is a consumer education program for junior and high school students.
- b. **Impact.** Students from 12 District Junior and Senior High Schools participated in the “LifeSmarts” consumer education program training. Thirty percent (30%) of the participants competed in the State “LifeSmarts” competition, with the winning team representing the District at the regional/national competition. One-hundred percent (100%) of the schools participating expressed a desire to participate next year, and 80% of the participants recognized that they had gained awareness and knowledge in consumer issues relevant to their financial success.
- c. **Funding.** Smith-Lever/Private Donations
- d. **Scope.** State Specific

Key Theme: Home Safety

- a. **Description.** The goal of the Community Resource Development-Technical (CRD-T) Unit is to promote home safety and to enhance the quality of life among families and communities through training, skills development and knowledge of home air quality, home repair and home energy conservation. Three related programs formed the foundation of the offerings. The CRD-T Home Repair Program provided District residents with the basic knowledge and skills needed to perform minor repairs in and around their homes. The CES Working Homeowner Program provided residents with advance knowledge/skills to perform more advance repairs in

and around the home. The CES Healthy Indoor Air Program provided District residents with information and knowledge to reduce indoor air pollutants that can affect human health.

- b. **Impact.** Two-thousand five hundred (2,500) District residents participated in the CES Basic Home Repair Program, eighty-two percent (1,875) of participants actually used information and skills received in workshops, which resulted in an approximated net savings of \$100.00 per household in repair costs (total estimated savings of over \$187,500). More than 275 District residents participated in the CES Working Homeowner Program, ninety percent (248) of participants actually used skills learned in workshops, which resulted in approximate savings of \$ 250 to \$ 300 per household in repair cost (total estimated savings of over \$70,000). Five thousand (5000) informational Indoor Air Quality brochures were distributed to DC residents, 300 District residents changed their behavior when they received information on how to improve their indoor air problems, 100 residents tested their homes for radon, 55 people installed carbon monoxide detectors, 35 people were able to identify and remove mold and mildew, 100 people use less toxic home cleaning supplies in and around their home.
- c. **Funding.** Smith-Lever, EPA/ CSREES Grant
- d. **Scope.** State Specific

Key Theme: Parenting

- a. **Description.** The Parenting Education Program Series is a minimum of four sessions of three hours each, which included study and role-playing activities at home with their families. The series provided knowledge and skills training in communication, child development, discipline, basic budgeting, and stress and time management. The program assisted parents in strengthening their families and enhancing the quality of their lives.
- b. **Impact.** Ninety percent (90%) of the participants demonstrated changes in one of more of the essential areas of parenting, as demonstrated through their pre/post test results and the role-play interactions.
- c. **Funding.** Smith-Lever
- d. **Scope.** State Specific

Key Theme: Youth Development/4H

- a. **Description.** There were approximately 3,165 District youth directly involved in the 4H and Youth Development clubs and activities, with 25,000 youth indirectly affected through our public speaking, media production, print and broadcast journalism, health & nutrition, leadership & career development, community service, horticulture & urban gardening, science & technology, poetry and performing arts performed by our 4H club members.
- b. **Impact.** Forty-two 4H clubs, 35 of them new clubs established under the “DC 100 Clovers Project,” totaling 375 members, were after-school organized clubs, and were all involved in community service projects (i.e., Teen Health News, tutoring, working with the elderly, etc.). An additional 1,250 youth engaged in 4H activities, participated in the communications and expressive arts activities, with 175 youth as public speaking participants, taking part in the national campaign for “Greatest Mom” featured in Redbook magazine, and on “Inside Edition,” with 10 of our DC club members appearing on this nationally televised program. One-hundred sixty five (165) youth participated in the “Health Rocks!” national pilot project where they learned to express themselves and speak publicly, using a peer-reviewed curriculum on health promotion and smoking prevention. Forty-nine percent (49%) of participants reported the use of the information to educate their own parents about the dangers of smoking, 25% reported that their parents stopped buying cigarettes due to their children’s shared knowledge. One-hundred percent (100%) of the 4Hers who were peer educators reported refusal to smoke cigarettes or use tobacco products. One-hundred percent (100%) of the 8-12 year olds, who received the “Health Rocks!” curriculum, reported that they would not use tobacco products as a result of having received the lessons/activities. Thirty-three (33%) of the DC 4H Club members participated in horticultural and urban gardening activities, with 80% increasing their knowledge of the relationship of agriculture to the food on their tables, 69% demonstrated increased skills in the area of community beautification and nutrition for their health. Of the 1,200 youth involved in the science & technology activities, two of the 4H clubs (50 members) participated in the national science and engineering competitions, with one club receiving 1st place honor for developing a model city that was ecologically sound and employed state of the art technology to deliver services to its citizens, 99% of these members demonstrated an increased knowledge of science and technology. Seventy-five percent (75%) of the 4Hers who participated in the Teen Health News Project reported increased knowledge in television production, writing, and speaking skills. One-hundred percent of participants (100%) reported and increased awareness of the need for health education for themselves and their peers, and committed to participating in training students who will join their club for FY 2002.
- c. **Funding.** Smith-Lever/State Matching/National 4H Council Grant
- d. **Scope.** State Specific

Key Theme: Water Quality

- a. **Description.** The Department of Human Services, Office of Postsecondary Education, Research and Assistance awarded the Agricultural Experiment Station the Dwight S. Eisenhower Professional Development Grant. This grant was used to establish a Water Environmental Studies in Schools (WESS) Teacher Training Institute involving four DC Public Schools. The WESS Teacher Training Institute was designed to train 32 Junior and Middle High School teachers in water quality assessment and conservation, with a follow-up program practicum with students. The Teacher Training Institute provided training for schools' teachers in math, science, technology, art and humanities of water environmental studies; involvement of students in the same discipline areas as required for the restoration and conservation of the Anacostia River and its flora and fauna; and the development of a plan that engages the total community in the conservation of the Anacostia watershed. The teachers implemented the program in school during the academic year.
- b. **Impact.** The WESS Teacher Training Institute imparted knowledge skills to teachers that enabled them to upgrade instructions in math and science with their students interesting and innovative ways. It also provided a basic curriculum model for bringing environmental education into the schools. Thus, the program can never be "over." Teachers learned information they can apply throughout their teaching years.
- c. **Funding.** Hatch; Eisenhower Grant
- d. **Scope.** State Specific

B. Stakeholder Input Process

An Advisory Board was established in the Community Outreach and Extension Services (COES) Division. The Board consists of District of Columbia members from each of the eight Wards as well as members-at-large. The Advisory Board's function is to assist AES and CES in identifying program needs and enhancements to better serve the needs of the residents of the District of Columbia. The Advisory Board meets quarterly. They have assisted AES and CES in identifying specific areas of interest under the five major goals of the Plan of Work.

The City Counselor of each Ward recommended members for the Leadership Advisory Council to the Dean/Director who had final appointment of all members. The Leadership Advisory Council strengthened stakeholder input with District-wide representation that enabled Research and Extension to improve the timeliness and appropriateness of research and public offerings.

Additionally, a Stakeholders' Survey Questionnaire was distributed to city residents either on a one-on-one contact or when meeting with groups. This allows the stakeholder to provide input by identifying some of the needs that we should address. The surveys are reviewed for possible activities that can be created or incorporated into projects to meet residents' needs. Stakeholders also provide input by participating in workshops and field days. At these events they present problems they have encountered and as a result, researchers try to incorporate an experimental design to find solutions to the stakeholders' problems. Participants are also given the opportunity to provide comments regarding ongoing activities and recommend possible projects that would benefit their needs.

C. Program Review Process

Research

Each year the Director reviews the progress of each research project to ensure that researchers are accomplishing their objectives. If modifications are necessary to meet the objectives of the research, the recommendations are mutually agreed upon.

When funds are available to solicit for "Request for Proposals" a Peer Review panel is selected to review proposals. The Peer Review consists of selected representatives from the Department of Biological and Environmental Sciences, the Department of Chemistry, the Department of Physics, the Cooperative Extension Service, and from the community, state, and local government. The Peer Review criteria include, but may not be limited to: Researchers expertise to meet the objectives:

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

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

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

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

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

Extension

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

- § Self-administered questionnaires
- § Pre-tests and post-tests
- § Written Customer Evaluations
- § Written Communications
- § Oral Communications\
- § Staff Performance Appraisals

D. Evaluation of the Success of Multi and Joint Activities

1. The multi and joint planned programs reflected in this report addressed critical strategic issues for the immediate service area and the states with which we worked to address regional issues. The

Executive Office of the Mayor the District of Columbia meeting with over three thousand (3000) residents identified the strategic issues and concerns to be addressed by the mayor and city agencies, including the DC Extension Service and DC Research Station. In addition, the stakeholders serving on the CES/AES Leadership Advisory Council voted for the most important issues they felt addressed the needs of the people in their Wards.

2. Two-thirds of the programs addressed the needs of the under-served and under-represented, particularly African-Americans.
3. The multistate and joint programs achieved the expected outcomes and impacts. It is the further expectation that efforts will be made to seek continuing greater impact.
4. The multistate and joint programs were efficient and effective based on evaluations of each. Continuous quality improvement is a principle to which AES and CES are committed. Therefore, modifications to the programs were made for FY 2002 in response to “lessons learned.”

E. Multistate Extension Activities

This section is not applicable for the University of the District of Columbia according to the requirements of AREERA section 105. However, because the University is an 1862 institution, the following activity is reported.

Goal II: A SAFE AND SECURE FOOD AND FIBER SYSTEM

Multistate Diabetes Program

Amount Funded: Smith-Lever C funds: \$6,948

Report: The DC Cooperative Extension Service was an active member of the Metropolitan Diabetes Action Committee. Multistate partners were from the Maryland Extension Service-Montgomery County and the District of Columbia Extension Services. The purpose of the multistate activity was to collaborate with other agency leaders to plan and implement nutrition, diet and health programming; to provide educational skills training and knowledge for the growing Hispanic communities within the metropolitan area. A multistate approach was taken because it was found that a significant number of the Hispanic families freely cross state lines. Some of the activities provided under this collaboration were the “Diabetic Health Fair for the

Latino Community,” and the “Family Counseling Program for Hispanic Children” with high cholesterol and diabetes. This is a viable and visible program. Its continuation is supported.

F. Integrated Research and Extension Activities

GOAL II: A SAFE AND SECURE FOOD AND FIBER SYSTEM

Key Theme: Food Quality

- a. **Description.** As part of a health regimen, many people across our nation are consuming more fresh produce. As a result of this demand, salad bars in area grocery chains, restaurants, and cafeterias contain fresh-cut produce. Consumers’ demand for safe and quality fresh-cut produce requires constant monitoring of microorganisms. The Agricultural Experiment Station’s Multi-state and Integrated project, “Post-Harvest Physiology of Fruits” focuses on developing better methods for extending the shelf life of freshly cut produce.
- b. **Impact.** Research findings revealed that the practice of using preprocessing methylcyclopropene (MCP) vapor treatment of early climacteric fruits and post-processing dip of fresh-cut cubes in chlorine water supplemented with calcium chelate maintains quality and extends shelf life of fresh-cut honeydew. Thus, this practice will be recommended to the fresh-cut industry. Researchers are continually working toward discovering more techniques that will help our nation’s fresh-cut industry to ensure food safety and high quality of fresh-cut produce.
Publication: Jin-He, Robert A. Saftner, and Yuen S. Lee. 2001. A Preprocessing vapor treatment of early climacteric honeydew with 1-methylcyclopropene and a post processing dip of fresh cut honeydew in chlorine water supplemented with a calcium chelate. Abstract. Hort.Science: 36(3), 526
- c. **Funding.** Hatch, Smith Lever
- d. **Scope.** Integrated Research and Extension

GOAL III: A HEALTHY, WELL-NOURISHED POPULATION

Key Theme: Human Health

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

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

Key Theme: Using Sustainable Agricultural Techniques for Urban Gardening

- a. **Description.** A sustainable agricultural program has been implemented in the District of Columbia where urban gardeners and other agricultural industry professionals are being trained to establish and maintain gardens using sustainable cultural techniques. Implementation techniques include training of extension agents, master gardeners and lawn and garden professionals in the development of knowledge in using sustainable agricultural techniques in growing horticultural crops. These trained individuals, in turn, are being used to help community gardeners establish and maintain vegetable gardens throughout the District of Columbia. Training is being accomplished by offering regular classes and seminars for extension agents, master gardeners and individual gardeners at the University of the District of Columbia. In addition, field days and farm tours are being conducted so that gardeners can be given hands-on instruction on establishing and maintaining gardens. The training and

education program is a collaborative effort between the Agricultural Experiment Station and the Cooperative Extension Service of the University of the District of Columbia.

- b. **Impact.** A workshop was given at the Occupational Safety and Health Review Commission in Washington, DC on May 15, 2001. Participants included 20 gardeners. Topics covered at the workshop were garden site selection, seedbed preparation, crop culture (weed control, insect and disease control and plant water), and soil fertility, including compost and fertilizer application, pH levels and liming applications. After a one-hour and a half presentation, gardeners were given the opportunity of gaining knowledge by asking questions about the various gardening problems they were having. As a result of this workshop, gardeners have increased their requests for soil testing and fact sheet articles that have been written about sustainable agricultural techniques to be used for urban gardening in the District of Columbia.
Publication: James R. Allen, 2001: Vegetable Fall Gardening in the District of Columbia. Agricultural Experiment Station. Publication Series. Vol.2, Issue 5.
- c. **Funding.** Hatch & Smith-Lever
- d. **Scope.** Integrated Research and Extension

Key Theme: Integrated Pest Management in Urban Gardens

- a. **Description.** Implementation of an integrated pest management (IPM) program in the District of Columbia has been largely supported by participation in the pesticide assessment efforts of the IR-4 project. At this point, implementation of a full IPM program is still an evolving program. However, with collaborative efforts of the Cooperative Extension Service, we were able to offer training sessions to urban gardeners who were taught the proper methods of handling pesticides. Incorporated in the workshops and seminars given to our master gardeners were sections in which gardeners were taught cultural techniques for reducing disease and insect infestation, thus lessening the need for applying large quantities of chemical pesticides.
- b. **Impact.** As a result of our efforts, gardeners of the District of Columbia are now using low-input sustainable agricultural techniques for controlling disease and insect infestation in vegetable crop production. Such cultural techniques include crop rotation and inter and relay cropping. Of particular interest is the intercropping of aromatic herbs such as thyme and sage with squash, cucumber, collards and lettuce to determine to what extent the presence of these herbs lower the buildup of disease and insect infestation of vegetable crops. There is also evidence that gardeners are selecting more disease and insect resistant varieties for planting. Some have even started to use natural materials such as hot pepper solutions from peppers produced in their gardens to control insects.
- c. **Funding.** Hatch; Smith-Lever
- d. **Scope.** Integrated Research and Extension

Key Theme: Soil Testing

- a. **Description.** As a response to the soil testing needs of the urban gardeners of the District of Columbia, the Agricultural Experiment Station in collaboration with the Cooperative Extension Service, has developed a soil-testing laboratory to determine the basic fertility levels of their garden soils. In addition to developing soil fertility program for our gardeners, there was also a concern for possible toxic levels of inorganic chemicals in these soils. Therefore, the laboratory was additionally equipped to analyze soil samples for levels of heavy metals. At this point, soil samples submitted by gardeners to the laboratory are tested for levels of the following components: Organic matter; pH; Potassium; Heavy metals – Cadmium, Copper, Iron, Nickel, Lead and Zinc; Arsenic; and Cation Exchange capacity.
- b. **Impact.** After soil samples have been tested, the staff of the Agricultural Experiment Station reviews the results and then makes recommendations for a soil fertility program that is suitable to the cultural program of the particular gardener. In addition, through seminars, field days and regular classes sponsored by the project leaders of the Sustainable Agricultural, Urban gardening and the Master Gardener programs, gardeners are given training on how to develop and maintain soil fertility programs for their urban gardens. Training given to these gardeners include: proper seed bed preparation, how and when to apply fertilizer, composting, liming, crop rotation and using legumes, not only for a food crop, but also for soil building purposes. The response to this soil testing effort has been tremendous. Gardeners who were applying fertilizer without regard for what they were growing or the fertility levels of their soils are now having their soils tested regularly. In addition, gardeners who had no idea that they needed to have their soils tested are now asking for help in getting the tests done and soil fertility programs are being instituted in their crop growing activities.
- c. **Funding.** Hatch; SmithLever
- d. **Scope.** Integrated Research and Extension

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

Key Theme: Community Development

- a. **Description.** The most significant Community Development program during this period was the “The Adopt-A-Block Program,” a partnership effort between the AES/CES, the Fannie Mae Foundation, Giant Supermarkets, Keep America Beautiful, and the Executive Office of the Mayor. The program is a litter prevention education and beautification service along the main access thoroughfares into the District of Columbia. Martin Luther King Jr. Avenue was the first

“block” identified for the program. Adopt-A-Block is part of the Mayor’s project: “Polishing America’s Crown Jewel,” a project that is designed to engage businesses, organizations, and residents.

- b. **Impact.** The program kick-off resulted in partnerships with six D.C. Public Schools to participate in the community development effort. Area residents, businesses, AES and CES staff, and community organizations worked diligently together to participate in one of many scheduled activities to keep the District of Columbia beautiful. This effort will be the driving force to foster public awareness and participation in “Polishing America’s Crown Jewel,” Washington, D.C.
- c. **Funding.** Hatch; Smith-Lever; Private
- d. **Scope.** Integrated Research and Extension

Key Theme: Team Building with Diversity

- a. **Description.** “Team Building with Diversity” is a cooperative project between Community Outreach and Extension Services (AES/CES) and the George Mason University. Specifically, the program is a simulation environment, which places participants into many different roles. Participants assume roles of members of Government, Legislature, Financial Institutions, and Commercial Firms within a fictitious post-conflict country, Akrona. More than 100 people for city government, private sector, academic institutions, and community leaders participated in the activity. This was a collaborative effort between AES and CES. AES organized program activities and briefings, while CES encouraged community involvement for the project.
- b. **Impact.** City government and community leaders, staff, students, and community members received hands-on experience in working with diverse groups. The game was conducted in such a way that initially emphasized the ethnic identities. By doing so, many decisions that were made within the simulation had ethnic, rather than rational-economic justifications. Such non-economic decisions are sub-optimal and will not lead to overall success. The play of the game made this potential failure clear, thereby nudging the participants into a more cooperative and coalition building set of attitudes.
- c. **Funding.** Hatch; Smith-Lever
- d. **Scope.** Integrated Activity Research and Extension