

# 2012 Fort Valley State University and University of Georgia Combined Research and Extension Plan of Work

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## I. Plan Overview

### 1. Brief Summary about Plan Of Work

The Georgia Plan of Work encompasses a five-year period beginning October 1, 2011. The plan addresses major agricultural issues as well as many other problems facing rural and urban areas, the environment, families and youth. The plan represents a coordinated effort between the state's 1890 and 1862 institutions -- Fort Valley State University (FVSU) and the University of Georgia (UGA), and includes joint planning between Experiment Stations and Extension units at both universities.

Georgia, one of the original thirteen colonies, has a land area of 57,919 square miles, which makes it the largest state east of the Mississippi River (24th overall). The total area of the state's three largest counties - Ware, Burke, and Clinch (2,565 square miles) - is greater than the area of the entire state of Delaware (2,489 square miles). Georgia falls within five major physiographic regions: The Blue Ridge Mountains in the northeast, the Ridge and Valley Province and the Cumberland Plateau in the northwest, the Piedmont across Georgia's center, and the Coastal Plain in the south. Elevations range from sea level to 4,784 feet at Brasstown Bald in the Blue Ridge Mountains.

As the twenty-fourth largest state, Georgia's 2008 population was 9,685,744. The 2008 population listed in the 2010 Georgia County Guide reported 26.32% of Georgians were age 19 or younger, and 10.13% of the state's population was 65 or older. Of the state's citizens, the 2010 Georgia County Guide reported that in 2008, 65.4% of Georgians were of white descent, 30.9% were of African American descent, 8% were of Hispanic descent. From 2000 to 2007 there has been a substantial increase in the Hispanic/Latino descent from 5.3% in 2000 to 7.8% in 2007.

The Georgia Extension Service has 166 offices in 157 of Georgia's 159 counties. FVSU and UGA county personnel are housed jointly in county offices. Extension programming is delivered as both individual county effort and as multi-county programming. State faculty also deliver programming directly to clientele when appropriate.

The research programs of FVSU and UGA are conducted through the Agricultural Experiment Stations system. In addition to Georgia's four main campuses located in Athens, Fort Valley, Tifton and Griffin, Georgia utilizes several research and education centers located strategically throughout the state.

This joint Plan of Work was developed around core programs and targeted issues. The programming directions of core programs and the identification of targeted issues are decided under a structured program development system. The Georgia program development model is a multiple step process that is operational every year. The model includes a process for assessing needs and identifying problems. It also includes program evaluation to determine impact. The Georgia program development model works in unison with multiple advisory systems at both county and state levels.

Also part of annual needs assessment and an integral part of developing this plan of work, input is solicited directly from academic departments at FVSU's College of Agriculture, Family Sciences and Technology and UGA's College of Agricultural and Environmental Sciences, and College of Family and

Consumer Sciences. Faculty members associated with this plan are working on the cutting edge. The faculty bring information and input to the table from both the academic literature and personal knowledge. This input is equally important to program development as is a strong advisory system.

The Georgia Federal Plan of Work does not attempt to capture all of the work of the colleges' faculty members. It is intended to document the plans and actions of the faculty members receiving specific formula funds. The majority of these dollars are used to fund core programs at the state level. These core programs range from the traditional animal and plant production to the emerging issue of biofuels. The goals of these programs are to demonstrate short and long-term impact. However, the greatest impacts of these core programs are the foundations created to support and leverage additional resources beyond state matching funds. It is the additional state funding, county funding, grants and gifts leveraged as a direct result of the programs in this plan that may create the greatest final impact. This plan does recognize this leveraged impact. Most of the planned programs include outcome measures that track the output levels of leveraged programming. The outputs of these leveraged programs are considered a direct short-term outcome of the core planned programs within the Georgia Federal Plan of Work.

The Georgia Federal Plan of Work is centered on ten planned programs. Individual faculty members participate in the development of personal plans of work. There are approximately 130 very specific plans of work which have been submitted by individual faculty members or faculty teams. These plans were combined into ten state level planned programs. One of the planned programs are specific to FVSU and three to UGA. The remaining six planned programs include joint efforts from both institutions.

Global Food Security and Hunger is the largest planned program from the perspective of the number of individual plans involved. Programming efforts and research include plant production, agricultural sustainability, poultry production, aquaculture, chevon production, new product development, and safety.

Climate Change addresses programming and research related to water, energy, waste, and air quality, as well as plant production and sustainability.

Food safety and childhood obesity are important parts of this plan. From diabetes education to healthy lifestyle education for youth, these programs will make an impact on the citizens of Georgia. The training of the food service industry is a large task in which this plan will have a great impact.

The greatest leveraging of resources is planned around the youth components of this plan. With relatively few federal formula dollars dedicated to youth programming, the core funded programs will leverage multiple county level programs impacting many thousands of young people.

The Georgia Federal Plan of Work is designed to meet the emerging issues of our community, support the sustainability and profitability of the agriculture industry, and provide educational programming for families and youth. Major components in the planned program specifically target youth and families at risk. Other components target small producers, limited resources farmers, and rural communities.

**Estimated Number of Professional FTEs/SYs total in the State.**

Year	Extension		Research	
	1862	1890	1862	1890
2012	98.8	6.5	58.6	13.5
2013	98.8	6.5	58.6	13.5

**Estimated Number of Professional FTEs/SYs total in the State.**

Year	Extension		Research	
	1862	1890	1862	1890
2014	98.8	6.5	58.6	13.5
2015	98.8	6.5	58.6	13.5
2016	98.8	6.5	58.6	13.5

**II. Merit Review Process**

**1. The Merit Review Process that will be Employed during the 5-Year POW Cycle**

- Internal University Panel
- External University Panel
- Combined External and Internal University External Non-University Panel
- Expert Peer Review

**2. Brief Explanation**

UGA's College of Agricultural and Environmental Sciences (CAES) periodically conducts an extensive, comprehensive program review of its research and extension programs. These reviews collect both internal and external input including faculty and staff, clientele, alumni and stakeholder groups. The results of these reviews have been used in the formulation of this plan of work. Additional guidance has been provided by UGA's CAES Advisory System through their critical review of programs and suggestions for improvements.

This plan of work is under continuous review by the Program Development Team, which is comprised of Program Development Specialists and Coordinators from Agriculture and Natural Resources, Family and Consumer Sciences and 4-H and Youth, as well as faculty from both FVSU and UGA. This review is an on-going process and future annual reviews and changes in the plan of work will be the responsibility of this team.

The research portion of the plan of work undergoes scientific peer review prior to each project being submitted. All scientists are required to have active projects for expenditures to be made. Each project is peer reviewed by both internal and external reviewers and must be approved by the appropriate Dean and Director prior to submission to the National Institute of Food and Agriculture.

**III. Evaluation of Multis & Joint Activities**

**1. How will the planned programs address the critical issues of strategic importance, including those identified by the stakeholders?**

Multi-state programs are identified and supported using the Georgia Program Development Model just like state specific programs. As issues emerge through our advisory system and through faculty knowledge, information is shared through regional and national meetings. Professional association conferences and administrative conferences such as the Southern Region Program Leadership Conference, are all important venues to share information and to develop collaborations around similar issues or concerns. From these collaborations, informal working relationships will develop. As programming intensifies around an area of interest, the collaborative efforts of individual faculty easily transforms into formal multi-state programming partnerships.

Integrated Extension /Research activities are easily developed. The majority of faculty members receiving federal formula funding have both a research and extension appointment. This joint appointment within a department is fertile ground to encourage the development of joint extension / research projects.

**2. How will the planned programs address the needs of under-served and under-represented populations of the State(s)?**

When appropriate, under-served and under-represented populations are specifically targeted within a planned program. In these cases, the level of contact with the targeted audience is part of the program development process. Goals are set and accomplishments toward those goals are recorded.

**3. How will the planned programs describe the expected outcomes and impacts?**

Outcomes and impacts will be measured and described according to the accomplishments in Georgia. While planning and program resources are shared among several states, reporting of impact will be done by each state individually.

**4. How will the planned programs result in improved program effectiveness and/or**

All state planned programs are summaries of individual plans of work. These individual plans contain specific individual goals that link to the overall program goals. Individuals are evaluated on their personal goals. This evaluation will improve performance and effectiveness at the program management level. As individual faculty improvements are made, overall program effectiveness and efficiency will improve.

**IV. Stakeholder Input**

**1. Actions taken to seek stakeholder input that encourages their participation**

- Use of media to announce public meetings and listening sessions
- Targeted invitation to traditional stakeholder groups
- Targeted invitation to non-traditional stakeholder groups
- Targeted invitation to traditional stakeholder individuals

- Targeted invitation to non-traditional stakeholder individuals
- Survey of traditional stakeholder groups
- Survey of traditional stakeholder individuals
- Survey specifically with non-traditional groups

**Brief explanation.**

Surveys are used at the planned program level. Information is collected and shared as part of the program development process. The advisory system requires that faculty seek the participation in non-traditional stakeholder individuals. Georgia's advisory system states that advisory committee membership should reflect the demographic composition of the community.

**2(A). A brief statement of the process that will be used by the recipient institution to identify individuals and groups stakeholders and to collect input from them**

**1. Method to identify individuals and groups**

- Use Advisory Committees
- Open Listening Sessions
- Needs Assessments
- Use Surveys

**Brief explanation.**

Organizations that are direct stakeholders or potential collaborators (for addressing community issues) are identified by the faculty and administration. Input is sought from stakeholders who have demonstrated their dedication to the activities of the college. County programs identify individuals with the ability to represent diverse current or potential stakeholder groups in the community. These groups may be identified by race, ethnicity, income or communities of interest.

**2(B). A brief statement of the process that will be used by the recipient institution to identify individuals and groups who are stakeholders and to collect input from them**

**1. Methods for collecting Stakeholder Input**

- Meeting with traditional Stakeholder groups
- Survey of traditional Stakeholder groups
- Meeting with traditional Stakeholder individuals
- Survey of traditional Stakeholder individuals
- Meeting with the general public (open meeting advertised to all)
- Meeting specifically with non-traditional groups
- Survey specifically with non-traditional groups
- Meeting with invited selected individuals from the general public

**Brief explanation.**

At the local level, advisory committees meet by program area and cumulatively to identify issues; plan, execute, and evaluate programs; and communicate results to the community.

When making hiring decisions active stakeholders are surveyed via email soliciting their comments and recommendations.

**3. A statement of how the input will be considered**

- In the Budget Process
- To Identify Emerging Issues
- Redirect Extension Programs
- Redirect Research Programs
- In the Staff Hiring Process
- In the Action Plans
- To Set Priorities

**Brief explanation.**

Stakeholder input is an important part of Georgia's program development model. Stakeholder input is currently used for program planning and development purposes. Stakeholder input is used to identify issues and to evaluate the level of resources directed toward specific planned programs. Stakeholders are encouraged to participate in program implementation as a tool to understand the value and scope of the program. Stakeholders are also part of fund development at both the state and local levels.

## V. Planned Program Table of Content

S. No.	PROGRAM NAME
1	Childhood Obesity
2	Climate Change
3	Consumer Economics and Financial Literacy
4	Food Safety
5	Global Food Security and Hunger
6	Sustainable Energy
7	Housing and the Near Environment
8	Technology Education for Seniors
9	Urban Agriculture
10	Youth Life Skill Development

## **V(A). Planned Program (Summary)**

### **Program # 1**

#### **1. Name of the Planned Program**

Childhood Obesity

#### **2. Brief summary about Planned Program**

This planned program has a major research and extension component to address human nutrition and health. Extension Specialists will train agents to provide training to adults and youth on nutrition and lifestyle choices. Specialists will also develop curricula, print media and on-line consumer resources, and program evaluations.

Specifically, faculty will develop in-school curricula on Nutrition and Physical Activity education to stimulate behavior changes among youth. The Food Product Development Learning Experience will focus on the benefits of healthy and safe food choices. A statewide, high school conference and 4-H Summer Camp Healthy Lifestyle classes will be conducted using healthy lifestyle curriculum.

From a research prospective, plant extracts and other natural substances will continue to be investigated for their ability to induce apoptosis, primary in cancer cells. Some of these are especially interesting because they also have been shown to have antidiabetic effects and/or have direct effects on adipose tissue. In particular, green tea extracts, garlic compounds and conjugated linoleic acid (CLA) have been shown to cause weight loss and reduce body fat in experimental animals and humans. CLA, a group of positional and geometric isomers of linoleic acid, has received considerable attention because of its many purported health benefits. In addition to anticarcinogenic, antiatherogenic, and antidiabetic effects, dietary CLA can induce body fat loss in several species.

This planned program will provide educational opportunities for parents/caregivers, children and professionals with the most up-to-date and researched-based concepts of family coping strategies, positive development, and basic life skill information. The family life coping strategies will provide ideas and concepts on decisive decision making. For positive development the program helps participants find ways to improve critical thinking, creative abilities and better communication skills. The life skill information will provide participants with ideas for lifelong, productive participation in society. These character building initiatives will provide children the self confidence to become caring and responsible adults for a thriving community.

Additionally, the "Healthy People" has two overarching goals: 1) to increase quality and years of healthy life; and 2) to eliminate health disparities. Initiating the facilitation of 4-H Youth Development program activities to traditional and non-traditional underserved audiences is a critical priority for this programming effort.

**3. Program existence :** Mature (More than five years)

**4. Program duration :** Long-Term (More than five years)

**5. Expending formula funds or state-matching funds :** Yes

**6. Expending other than formula funds or state-matching funds :** Yes



**V(B). Program Knowledge Area(s)**

## 1. Program Knowledge Areas and Percentage

<b>KA Code</b>	<b>Knowledge Area</b>	<b>%1862 Extension</b>	<b>%1890 Extension</b>	<b>%1862 Research</b>	<b>%1890 Research</b>
305	Animal Physiological Processes	0%	0%	100%	0%
608	Community Resource Planning and Development	0%	7%	0%	0%
724	Healthy Lifestyle	0%	34%	0%	0%
801	Individual and Family Resource Management	10%	3%	0%	0%
802	Human Development and Family Well-Being	45%	15%	0%	0%
803	Sociological and Technological Change Affecting Individuals, Families, and Communities	10%	3%	0%	0%
805	Community Institutions, Health, and Social Services	10%	3%	0%	0%
806	Youth Development	25%	35%	0%	0%
	<b>Total</b>	100%	100%	100%	0%

**V(C). Planned Program (Situation and Scope)**

## 1. Situation and priorities

In Georgia, nearly 42 percent of 4th graders are either overweight or at risk of becoming overweight according to a study conducted by Dr. Richard Lewis, UGA College of Family and Consumer Sciences. The study also showed that 38 percent of eighth graders were also overweight or at risk of being overweight. For eleventh graders, the percentage was nearly 36%. Obesity prevention and education should begin as early as possible, by emphasizing healthful diets, good nutrition, and physical activity in early childhood. Two thirds of adults are overweight or obese. Obesity contributes to the development of many chronic diseases including diabetes, hypertension, cardiovascular disease and cancer. Three-quarters of Georgians are inactive which also contributes to these chronic diseases. Direct and indirect costs of these weight-related problems were \$117 billion in the year 2000. In the U.S., 20.8 million people have diabetes and 41 million have pre-diabetes. In Georgia, nearly 7 percent of the population has diabetes and it is currently the 6th leading cause of death. Both diabetes and pre-diabetes increase risk for cardiovascular disease. People of African, Asian and Latino/Hispanic heritage are 2-4 times more likely to develop diabetes. The economic impact of diabetes may be close to \$4 billion per year. The developments of an estimated 20-40% of cancers are affected by dietary choices. Eating more fruits and vegetables, drinking more fluids, eating more whole grains, consuming more non-fat and low fat dairy foods and being more physically active may help reduce risk for numerous cancers.

Despite the rising worldwide epidemic of obesity and the \$100 billion a year spent on weight loss and weight control products, there are only a few prescription anti-obesity drugs available today. Strategies for developing medications for weight loss have traditionally focused on agents that act in the brain to reduce hunger, agents that act in the gastrointestinal tract to inhibit digestion and absorption of fat or carbohydrate, and agents that increase metabolic rate. None of the currently available weight loss medications are highly effective, and all have reports of serious side effects.

Because of the rise in the disease rate, more money is coming out of the daily income of families, medical needs (insurance, prescriptions and copays). For low and moderate income families, this rise can

become detrimental to the welfare and stability of the family.

**2. Scope of the Program**

- In-State Extension
- In-State Research
- Multistate Extension
- Integrated Research and Extension

**V(D). Planned Program (Assumptions and Goals)**

**1. Assumptions made for the Program**

Making better dietary choices, being physically active on a daily basis and controlling body weight may reduce risk or help control most chronic diseases. Making positive lifestyle changes can prolong life and improve quality of life.

Researchers in this program assume the induction of adipose tissue apoptosis could be a non-surgical approach for reducing total adipose tissue mass and longer-term maintenance of weight loss. The expectation of longer-term maintenance of weight loss associated with adipose tissue apoptosis in obese people is supported by the high percentage of people who retained a large proportion of the initial weight loss one year after liposuction.

Human development programs that focus on nurturing the individual ensure that economic security will be maintained. The assumption made for the Family Life Program is that it will be a catalyst in providing participants with the needed information to make informed decisions for the betterment of their family to ultimately enhance society.

**2. Ultimate goal(s) of this Program**

The goal is to reduce the rising rates of chronic disease and to improve the quality of life of those who already suffer from these diseases. Georgia's citizens will be healthier resulting in lower health-care costs and an improved quality of life because of this program.

Researchers strive to find formulations of active components from natural sources that, when taken orally, will induce fat mobilization and apoptosis of fat cells resulting in weight loss and enhanced bone density. These products will be health supplements that will be part of solutions to problems associated with obesity or osteoporosis in humans and companion animals.

Additional goals of the family life area of this program are to improve parents/caregivers abilities to strengthen family sufficiency and to provide youth with character building skills.

**V(E). Planned Program (Inputs)**

**1. Estimated Number of professional FTE/SYs to be budgeted for this Program**

Year	Extension		Research	
	1862	1890	1862	1890
2012	5.1	3.0	3.7	0.0
2013	5.1	3.0	3.7	0.0

Year	Extension		Research	
	1862	1890	1862	1890
2014	5.1	3.0	3.7	0.0
2015	5.1	3.0	3.7	0.0
2016	5.1	3.0	3.7	0.0

**V(F). Planned Program (Activity)**

**1. Activity for the Program**

Disseminate fact sheets on weight control, physical activity, diabetes management and prevention, cardiovascular disease prevention and cancer prevention. Provide training about chronic disease prevention and control to agents and selected clientele. Provide information to be disseminated by agents to media outlets.

Conduct in school classes in a majority of Georgia's Counties. Conduct Food Product Development contest and local practice sessions as part of the 4-H program. Conduct Statewide youth meetings focused on Healthy Lifestyles. As part of a new program, Healthy Lifestyles Ambassadors will be trained on research and relevant information. 4-H Summer Camp Healthy Lifestyle classes will be conducted.

Faculty will conduct weight loss research.

**2. Type(s) of methods to be used to reach direct and indirect contacts**

**Extension**

Direct Methods	Indirect Methods
<ul style="list-style-type: none"> <li>● Education Class</li> <li>● Workshop</li> <li>● Group Discussion</li> <li>● One-on-One Intervention</li> <li>● Demonstrations</li> </ul>	<ul style="list-style-type: none"> <li>● Public Service Announcement</li> <li>● Newsletters</li> <li>● Web sites other than eXtension</li> </ul>

**3. Description of targeted audience**

Specialists will direct efforts primarily to educating and preparing county agents. As a result, agents will reach parents, guardians, grandparents, child care providers, and other caregivers of children and youth. The planned program will also target directly limited resources individuals and families.

## **V(G). Planned Program (Outputs)**

NIFA no longer requires you to report target numbers for standard output measures in the Plan of Work. However, all institutions will report actual numbers for standard output measures in the Annual Report of Accomplishments and Results. The standard outputs for which you must continue to collect data are:

- Number of contacts
  - Direct Adult Contacts
  - Indirect Adult Contacts
  - Direct Youth Contacts
  - Indirect Youth Contact
- Number of patents submitted
- Number of peer reviewed publications

Clicking this box affirms you will continue to collect data on these items and report the data in the Annual Report of Accomplishments and Results.

## **V(H). State Defined Outputs**

### **1. Output Measure**

- Number of significant publications including articles, bulletins and extension publications. (excluding peer reviewed articles)
- Number of educational contact hours generated from formal educational programs presented to county extension agents by state faculty directly associated with this planned program.
- Number of educational contact hours generated from formal educational programs presented directly to clientele by state faculty directly associated with this planned program.
- Number of invited presentations by faculty directly resulting from the success of this planned program.
- Website hits for diabetes, weight control, and cardiovascular disease.

Clicking this box affirms you will continue to collect data on these items and report the data in the Annual Report of Accomplishments and Results.

**V(I). State Defined Outcome**

O. No	Outcome Name
1	Percent of people at risk for cancer who chose a lower fat or lower sodium food item.
2	Number of additional direct extension contacts made by volunteers, staff, or county agents not receiving federal funds as a direct outcome of the work of federally funded faculty associated with this planned program.
3	Percentage of program participants reporting increased knowledge after program participation.
4	Total number of youth participants that will enhance decision making skills and develop positive leadership skills. increase knowledge of science education
5	Percentage of participants that lose weight or improve fitness.

**Outcome # 1**

**1. Outcome Target**

Percent of people at risk for cancer who chose a lower fat or lower sodium food item.

**2. Outcome Type : Change in Condition Outcome Measure**

**2012:60                      2013:60                      2014:60                      2015:60                      2016:60**

**3. Associated Knowledge Area(s)**

- 724 - Healthy Lifestyle
- 802 - Human Development and Family Well-Being
- 805 - Community Institutions, Health, and Social Services
- 806 - Youth Development

**4. Associated Institute Type(s)**

- 1862 Extension
- 1890 Extension

**Outcome # 2**

**1. Outcome Target**

Number of additional direct extension contacts made by volunteers, staff, or county agents not receiving federal funds as a direct outcome of the work of federally funded faculty associated with this planned program.

**2. Outcome Type : Change in Knowledge Outcome Measure**

**2012:29500                      2013:29500                      2014:29500                      2015:29500                      2016:29500**

**3. Associated Knowledge Area(s)**

- 305 - Animal Physiological Processes
- 608 - Community Resource Planning and Development
- 724 - Healthy Lifestyle
- 801 - Individual and Family Resource Management
- 802 - Human Development and Family Well-Being
- 803 - Sociological and Technological Change Affecting Individuals, Families, and Communities
- 805 - Community Institutions, Health, and Social Services
- 806 - Youth Development

**4. Associated Institute Type(s)**

- 1862 Extension
- 1862 Research
- 1890 Extension

**Outcome # 3**

**1. Outcome Target**

Percentage of program participants reporting increased knowledge after program participation.

**2. Outcome Type : Change in Knowledge Outcome Measure**

**2012:75                      2013:75                      2014:75                      2015:75                      2016:75**

**3. Associated Knowledge Area(s)**

- 608 - Community Resource Planning and Development
- 724 - Healthy Lifestyle
- 801 - Individual and Family Resource Management
- 802 - Human Development and Family Well-Being
- 803 - Sociological and Technological Change Affecting Individuals, Families, and Communities
- 805 - Community Institutions, Health, and Social Services
- 806 - Youth Development

**4. Associated Institute Type(s)**

- 1862 Extension
- 1890 Extension

**Outcome # 4**

**1. Outcome Target**

Total number of youth participants that will enhance decision making skills and develop positive leadership skills, increase knowledge of science education

**2. Outcome Type : Change in Knowledge Outcome Measure**

**2012:400                      2013:450                      2014:500                      2015:550                      2016:600**

**3. Associated Knowledge Area(s)**

- 608 - Community Resource Planning and Development
- 724 - Healthy Lifestyle

- 801 - Individual and Family Resource Management
- 802 - Human Development and Family Well-Being
- 803 - Sociological and Technological Change Affecting Individuals, Families, and Communities
- 805 - Community Institutions, Health, and Social Services
- 806 - Youth Development

**4. Associated Institute Type(s)**

- 1862 Extension
- 1890 Extension

**Outcome # 5**

**1. Outcome Target**

Percentage of participants that lose weight or improve fitness.

**2. Outcome Type : Change in Condition Outcome Measure**

**2012:75                      2013:75                      2014:75                      2015:75                      2016:75**

**3. Associated Knowledge Area(s)**

- 724 - Healthy Lifestyle
- 802 - Human Development and Family Well-Being
- 803 - Sociological and Technological Change Affecting Individuals, Families, and Communities
- 805 - Community Institutions, Health, and Social Services
- 806 - Youth Development

**4. Associated Institute Type(s)**

- 1862 Extension
- 1890 Extension

**V(J). Planned Program (External Factors)**

**1. External Factors which may affect Outcomes**

- Economy
- Public Policy changes
- Government Regulations
- Competing Public priorities
- Populations changes (immigration, new cultural groupings, etc.)



## **Description**

Funding sources have been decreasing at both the federal, state and private levels. This could impact how many new materials, trainings and programs specialists and agents can provide. Also Medicare, Medicaid and private healthy insurance benefits have been fluctuating so access to care may prevent some individuals from implementing self-care and lifestyle recommendations. Also more funds and efforts may need to be directed toward the Hispanic/Latino population.

Changes in the regulation of natural products could impact research programs within this plan, as well as the use of these products by consumers.

Parenting and child care provider education may be affected by changes in federal and state budget priorities, legislation related to marriage and divorce, foster care changes, child care licensing requirements, changes to federally-funded programs such as Head Start, and changes in immigration patterns.

## **V(K). Planned Program - Planned Evaluation Studies**

### **Description of Planned Evaluation Studies**

- For each leadership, entrepreneurship, and science component of programming, all participants will be given pre-post testing in order to evaluate how much new knowledge and life skills all participants acquired. At the beginning and at the end of each entire leadership, entrepreneurship, and science component of programming sessions, a test will be administered at the beginning to gauge their knowledge prior to completing the entire session, and then the same test will be given at the conclusion of the entire session to see if the participants test scores increase.
- Evaluation materials are provided for our diabetes, weight control and cancer programs.
- Pre- and post knowledge and behavior evaluations are used. Participants complete pre-and post tests after lessons and fill out behavior change grids to show stages of change. All are self-report evaluations.
- Also, mail surveys will be mailed out a few weeks after the project/workshop to see if behavioral changes have occurred.

## **V(A). Planned Program (Summary)**

### **Program # 2**

#### **1. Name of the Planned Program**

Climate Change

#### **2. Brief summary about Planned Program**

This planned program is designed to provide leadership in research, teaching, and extension activities related to the inventory, management, protection, and enhancement of natural resources on which the human civilization relies for food, clean water, and clean air.

This program works with all parts of plant production from row crops to greenhouse production. Water availability for irrigation is an increasing problem for agriculture due to increased water demands. This makes it necessary to use irrigation water as efficiently as possible. The goal of this program is to develop more efficient irrigation systems. The program is also involved with managing water runoff from agricultural operations. This program encompasses the Southern Regional Water Quality program that is focused on delivering integrated research and extension information on water resources to clientele throughout the region.

AWARE stands for Animal Waste Awareness in Research and Extension. Much of the program's efforts in animal waste management and pollution prevention for animal agriculture fall under the auspices of AWARE. While based in the departments of Biological and Agricultural Engineering and Animal and Dairy Science, AWARE is really a team of scientists and educators from various departments. Stakeholders and contributors include farmers, consultants, faculty from other universities, state and federal government agencies, agricultural associations and businesses. This team or program provides ongoing technical assistance and education, as well as conducting applied research.

Reducing the ecological footprint of concentrated livestock or poultry production is an important part of this program. Faculty members will continue the development and performance evaluation of process-level strategies and tactics to reduce environmental pollution at the process level from confined animal feeding operations. The program will work to develop methods of managing and ultimately reducing ammonia emissions from poultry houses. Faculty members will develop methods of reducing phosphorous excretion in poultry through nutrition and genetics. It will also develop and apply methods of managing phosphorous in poultry manure in order to minimize detrimental environmental effects.

Faculty members will develop and implement quantitative and qualitative assessment tools of nonmarket/environmental goods. They will analyze regulatory options to discern advantages and disadvantages of various approaches.

A program is planned to provide numerous opportunities for greenhouse owners to learn about water management and new technology that aids in greenhouse management.

A Center for Urban Agriculture will be supported to enhance the sustainability and profitability of agricultural production for use in or grown in the urban area. The center will provide an organizational structure designed to facilitate scientific cross-fertilization among investigators, extension agents, industry and homeowners.

It will develop methods to improve reproductive efficiency in broiler breeds and extend those methods to poultry producers.

This project will examine the feasibility of marker-assisted mutation breeding to improve woody ornamental species.

The market for ornamental plants is large, but highly diversified among species and varieties. Certain traits of value for ornamental plants, such as drought-tolerance, disease-resistance, and novel flowering characteristics, have been found to be controlled by specific genes. (1) characterize candidate genes for ornamental traits of consumer and environmental value, and to (2) examine the feasibility of marker-assisted mutation breeding as a means of applying genetic information.

**3. Program existence :** Mature (More than five years)

**4. Program duration :** Long-Term (More than five years)

**5. Expending formula funds or state-matching funds :** Yes

**6. Expending other than formula funds or state-matching funds :** Yes

**V(B). Program Knowledge Area(s)**

## 1. Program Knowledge Areas and Percentage

<b>KA Code</b>	<b>Knowledge Area</b>	<b>%1862 Extension</b>	<b>%1890 Extension</b>	<b>%1862 Research</b>	<b>%1890 Research</b>
102	Soil, Plant, Water, Nutrient Relationships	6%	0%	0%	0%
111	Conservation and Efficient Use of Water	24%	0%	23%	0%
112	Watershed Protection and Management	30%	0%	23%	0%
124	Urban Forestry	0%	0%	3%	0%
133	Pollution Prevention and Mitigation	23%	0%	18%	0%
136	Conservation of Biological Diversity	0%	0%	3%	0%
141	Air Resource Protection and Management	3%	0%	3%	0%
202	Plant Genetic Resources	0%	0%	12%	0%
203	Plant Biological Efficiency and Abiotic Stresses Affecting Plants	0%	0%	3%	0%
204	Plant Product Quality and Utility (Preharvest)	3%	0%	3%	0%
212	Pathogens and Nematodes Affecting Plants	0%	0%	1%	0%
215	Biological Control of Pests Affecting Plants	0%	0%	1%	0%
403	Waste Disposal, Recycling, and Reuse	7%	0%	4%	0%
511	New and Improved Non-Food Products and Processes	0%	0%	1%	0%
902	Administration of Projects and Programs	2%	0%	1%	0%
903	Communication, Education, and Information Delivery	2%	0%	1%	0%
	<b>Total</b>	100%	0%	100%	0%

**V(C). Planned Program (Situation and Scope)****1. Situation and priorities**

The protection and enhancement of natural resources are key issues in the long-term survival of the human civilization. As world population increases, so does the pressure on natural resources to provide food, clean water, and clean air, and to assimilate wastes produced by the ever increasing population. Research programs in this area are aimed at identifying and understanding processes that lead to resource degradation so that management practices can be developed to minimize the impacts of those processes. Priorities are set based on local and national needs including rational utilization of agricultural/industrial/urban wastes, wastewater, by-products, and development of agricultural practices that protect soil, water, and air resources.

Increased population growth and changing production patterns in agriculture have resulted in the

degradation of soil, air, and water in some areas. Concerns about the management and control of natural resources and sustainable agricultural systems have come to the forefront, especially in the increasing numbers of areas where the urban-rural interface is most intense. These concerns have led to the need of analyses of the legislative and regulatory choices for addressing environmental problems incorporating economic efficiency criteria. Another issue has involved increased public pressure for information about the value of non-market goods, such as environmental amenities, and the costs and benefits of government regulations.

There is a continuing need for improved and innovative processes for treatment and resource recovery from animal residuals in order to protect both the natural environment and the viability of animal production systems. Both the increasing regulation of animal production residuals and the increasing costs of fossil energy to deal with these residuals make the situation a high priority. The two equal priorities will be prevention of release of contaminated water to the environment and recovery of economically useful products from animal manure.

Water resource issues are critical to the future of Georgia. Water quantity is limiting growth and development in some areas of the State and new water conservation regulations will require extensive public education. Water quality issues are requiring urban and rural communities to assess current practices and develop long term plans for returning impaired waters to their natural state. Priority issues include sedimentation, nutrients, pathogens, organics, metals, pesticides, and habitat impacts.

Landscape plants have an important functional and aesthetic impact on the environment, and are of great importance to urban areas. Furthermore, nurseries are constantly searching for new plants to give them a competitive edge in the marketplace, and to increase interest among landscapers and gardeners. In addition, environmental concerns such as drought, high summer temperatures, and late spring freezes, are having adverse impacts on growers and landscapes.

Production and sales of landscape plants continue to increase in Georgia and throughout the U.S. With a rapidly expanding population in the metropolitan Atlanta area, construction of new houses and commercial buildings is escalating. Consequently, the demand for plants to landscape these buildings continues to rise. The downside to this rising use of landscape plants has been increasing demand for water and pollution from pesticide use. Use of plants with pest resistance and heat and drought tolerance will alleviate these problems. To achieve pesticide reduction and improve plant growth and survival, careful selection of both species and cultivars is critical. Many of the popular species and cultivars lack some of these important traits. A need for increased breeding efforts to develop such plants has been expressed by the leaders in the nursery and landscape industries.

Most greenhouses are located near metropolitan areas and hence, utilize the same water resource base as most urban communities. With water conservation a major issue within most urban communities, greenhouse operations must now implement water conservation measures and adapt new technology.

The population of Georgia has grown 49.5% from 1990 to 2008, making it one of the fastest growing states in the country. In order to remain vital and relevant to the state, agricultural programs must focus resources and talents on the issues involved in urbanization and the needs of Georgia's increasing urban and suburban populations. This growth affects traditional agricultural sustainability as increasing populations put additional pressures and burdens on the agricultural industry.

## **2. Scope of the Program**

- In-State Extension
- In-State Research
- Multistate Research
- Multistate Extension
- Integrated Research and Extension
- Multistate Integrated Research and Extension

## **V(D). Planned Program (Assumptions and Goals)**

### **1. Assumptions made for the Program**

The protection and enhancement of natural resources are key issues in the long-term survival of the human civilization. As world population increases, so does the pressure on natural resources to provide food, clean water, and clean air, and to assimilate wastes produced by the ever increasing population. Research programs in this area are aimed at identifying and understanding processes that lead to resource degradation so that management practices can be developed to minimize the impacts of those processes. Priorities are set based on local and national needs including rational utilization of agricultural/industrial/urban wastes, wastewater, by-products, and development of agricultural practices that protect soil, water, and air resources.

Increased population growth and changing production patterns in agriculture have resulted in the degradation of soil, air, and water in some areas. Concerns about the management and control of natural resources and sustainable agricultural systems have come to the forefront, especially in the increasing numbers of areas where the urban-rural interface is most intense. These concerns have led to the need of analyses of the legislative and regulatory choices for addressing environmental problems incorporating economic efficiency criteria. Another issue has involved increased public pressure for information about the value of non-market goods, such as environmental amenities, and the costs and benefits of government regulations.

There is a continuing need for improved and innovative processes for treatment and resource recovery from animal residuals in order to protect both the natural environment and the viability of animal production systems. Both the increasing regulation of animal production residuals and the increasing costs of fossil energy to deal with these residuals make the situation a high priority. The two equal priorities will be prevention of release of contaminated water to the environment and recovery of economically useful products from animal manure.

Water resource issues are critical to the future of Georgia. Water quantity is limiting growth and development in some areas of the State and new water conservation regulations will require extensive public education. Water quality issues are requiring urban and rural communities to assess current practices and develop long term plans for returning impaired waters to their natural state. Priority issues include sedimentation, nutrients, pathogens, organics, metals, pesticides, and habitat impacts.

Genetic screening for induced mutations in these genes may make targeted mutation breeding a feasible approach.

### **2. Ultimate goal(s) of this Program**

The ultimate goal of this program is to protect, and if possible, enhance the natural resources on which the human civilization depends for food, clean water, and clean air. The goal of the program is to

protect the natural environment by developing processes that enhance the economic viability of the agricultural production of plants and animals without harm to our natural resources.

Extension goals are to develop education programs and materials that enhance public understanding of environmental issues and management practices that minimize potential degradation of soil and water resources.

Other Goals include: 1). Educating the greenhouse owners that implementing water conservation technology is cost effective and will improve efficiency within other input areas, such as fertilizer use and pesticide use. 2) Developing a demonstration project at a commercial greenhouse to show how flow meters can help owner manage water use, and 3) Educating greenhouse employees on the best management practices involving use of water.

**V(E). Planned Program (Inputs)**

**1. Estimated Number of professional FTE/SYs to be budgeted for this Program**

Year	Extension		Research	
	1862	1890	1862	1890
2012	16.7	0.0	7.6	0.0
2013	16.7	0.0	7.6	0.0
2014	16.7	0.0	7.6	0.0
2015	16.7	0.0	7.6	0.0
2016	16.7	0.0	7.6	0.0

**V(F). Planned Program (Activity)**

**1. Activity for the Program**

Knowledge in environmental sciences will be improved by applied and basic research studies and by dissemination of results through journal articles, conferences, and professional meetings. Extension outputs to improve public understanding of environmental management will consist of bulletins, flyers, short courses, meetings, and web pages related to implementation of environmental management programs.

Georgia will be actively involved in regional and national efforts consistent with the goals of our water quality programs. We will lead the regional efforts in animal waste management and be involved with numerous state, regional, and national efforts in this area. Research projects and educational efforts will be developed to address nutrient management, animal waste management and irrigation water management under the agricultural pollution control program. In the rural environmental protection area, drinking water will be a primary focus along with wastewater management. There will also be focus on watershed management. Many parts of the water quality program will reach audiences beyond the agricultural community including support for communities and local governments.

Both new and enhanced processes for treatment and utilization of animal manures will be provided to producers through extension and continuing education activities. Applied research projects will be conducted to develop methods to manage or reduce ammonia emissions in poultry production.

A large part of this program will fund specialists and their direct efforts primarily to county agents. These agents will then disseminate this information to the appropriate target audiences at the local level.

Research will be published in research publications. New information will be shared through the Extension education program. This program will include a breeding program that incorporates variability derived from interspecific hybrids to greatly enhance the genetic pool from which new cultivars can be developed. The genus *Abelia* contains approximately 30 species that potentially can be crossed to obtain hybrids with desired characteristics. Hybrids have been obtained from several of these species crosses and are undergoing evaluation. Improved cultivars from this program will be released.

Faculty will hold several educational programs that focus not only on water conservation, but on specific examples that will support the economics of technology conversion, specific behavior training for employees, and specific water use monitoring procedures to support management decisions. Trade journal articles will be written for the local area that supports these educational goals. The program hopes to have at least one grower agree to serve as a demonstration location where water conservation technology and training has been implemented.

The Center for Urban Agriculture will identify and address issues concerning agriculture that evolve within the urban community. They will investigate issues and form collaborations of faculty to address the issues.

**2. Type(s) of methods to be used to reach direct and indirect contacts**

**Extension**

Direct Methods	Indirect Methods
<ul style="list-style-type: none"> <li>● Education Class</li> <li>● Workshop</li> <li>● Group Discussion</li> <li>● One-on-One Intervention</li> <li>● Demonstrations</li> </ul>	<ul style="list-style-type: none"> <li>● Public Service Announcement</li> <li>● Newsletters</li> <li>● TV Media Programs</li> <li>● Web sites other than eXtension</li> </ul>

**3. Description of targeted audience**

The primary target audiences are county extension agents, growers, industry representatives, consultants, contractors, media, regulatory and policy representatives, community leaders,



## **V(G). Planned Program (Outputs)**

NIFA no longer requires you to report target numbers for standard output measures in the Plan of Work. However, all institutions will report actual numbers for standard output measures in the Annual Report of Accomplishments and Results. The standard outputs for which you must continue to collect data are:

- Number of contacts
  - Direct Adult Contacts
  - Indirect Adult Contacts
  - Direct Youth Contacts
  - Indirect Youth Contact
- Number of patents submitted
- Number of peer reviewed publications

Clicking this box affirms you will continue to collect data on these items and report the data in the Annual Report of Accomplishments and Results.

## **V(H). State Defined Outputs**

### **1. Output Measure**

- Number of educational contact hours generated from formal educational programs presented to county extension agents by state faculty directly associated with this planned program.
- Number of educational contact hours generated from formal educational programs presented directly to clientele by state faculty directly associated with this planned program.
- Number of significant publications including articles, bulletins and extension publications. (excluding peer reviewed articles)
- Number of invited presentations by faculty directly resulting from the success of this planned program.
- Number of plant species propagated

Clicking this box affirms you will continue to collect data on these items and report the data in the Annual Report of Accomplishments and Results.

**V(I). State Defined Outcome**

O. No	Outcome Name
1	Number of additional direct extension contacts made by volunteers, staff, or county agents not receiving federal funds as a direct outcome of the work of federally funded faculty associated with this planned program.
2	Percentage of Georgia poultry producers trained in Phosphorous(P) reduction/management methods.
3	Estimates of savings (\$ millions) resulting from reduced phosphorous (P) supplementation in poultry diets
4	Number of plantings by clientele

**Outcome # 1**

**1. Outcome Target**

Number of additional direct extension contacts made by volunteers, staff, or county agents not receiving federal funds as a direct outcome of the work of federally funded faculty associated with this planned program.

**2. Outcome Type : Change in Knowledge Outcome Measure**

**2012:13500      2013:14000      2014:14000      2015:14000      2016:14000**

**3. Associated Knowledge Area(s)**

- 102 - Soil, Plant, Water, Nutrient Relationships
- 111 - Conservation and Efficient Use of Water
- 112 - Watershed Protection and Management
- 124 - Urban Forestry
- 133 - Pollution Prevention and Mitigation
- 136 - Conservation of Biological Diversity
- 141 - Air Resource Protection and Management
- 202 - Plant Genetic Resources
- 203 - Plant Biological Efficiency and Abiotic Stresses Affecting Plants
- 204 - Plant Product Quality and Utility (Preharvest)
- 212 - Pathogens and Nematodes Affecting Plants
- 215 - Biological Control of Pests Affecting Plants
- 403 - Waste Disposal, Recycling, and Reuse
- 511 - New and Improved Non-Food Products and Processes
- 902 - Administration of Projects and Programs
- 903 - Communication, Education, and Information Delivery

**4. Associated Institute Type(s)**

- 1862 Extension
- 1862 Research

**Outcome # 2**

**1. Outcome Target**

Percentage of Georgia poultry producers trained in Phosphorous(P) reduction/management methods.

**2. Outcome Type : Change in Knowledge Outcome Measure**

**2012:50                      2013:50                      2014:50                      2015:50                      2016:50**

**3. Associated Knowledge Area(s)**

- 133 - Pollution Prevention and Mitigation
- 403 - Waste Disposal, Recycling, and Reuse

**4. Associated Institute Type(s)**

- 1862 Extension
- 1862 Research

**Outcome # 3**

**1. Outcome Target**

Estimates of savings (\$ millions) resulting from reduced phosphorous (P) supplementation in poultry diets

**2. Outcome Type : Change in Condition Outcome Measure**

**2012:5                      2013:5                      2014:5                      2015:5                      2016:5**

**3. Associated Knowledge Area(s)**

- 133 - Pollution Prevention and Mitigation
- 403 - Waste Disposal, Recycling, and Reuse

**4. Associated Institute Type(s)**

- 1862 Extension
- 1862 Research

**Outcome # 4**

**1. Outcome Target**

Number of plantings by clientele

**2. Outcome Type : Change in Action Outcome Measure**

**2012:35**

**2013:35**

**2014:35**

**2015:35**

**2016:35**

**3. Associated Knowledge Area(s)**

- 204 - Plant Product Quality and Utility (Preharvest)

**4. Associated Institute Type(s)**

- 1862 Extension
- 1862 Research

**V(J). Planned Program (External Factors)**

**1. External Factors which may affect Outcomes**

- Natural Disasters (drought, weather extremes, etc.)
- Economy
- Appropriations changes
- Public Policy changes
- Government Regulations
- Competing Public priorities
- Competing Programmatic Challenges
- Populations changes (immigration, new cultural groupings, etc.)

**Description**

Regulations and environmental compliance is based on typical conditions, severe weather may alter how regulations are enforced. Emergency situations may change environmental priorities. Our educational programs will try to address this as much as possible. Economics drive the investment and resources that can be put into environmental management. The government can change regulations which may alter the way this program needs to be delivered. Government regulations and public policy may speed up the adoption of conservation measures.

Policy changes affecting conservation and management of soil and water resources could increase or decrease the need, demand, and effectiveness of research and extension activities. Similarly, changes in government regulations and funding may either increase or decrease the need for research and extension programs in the environmental sciences.

**V(K). Planned Program - Planned Evaluation Studies**

**Description of Planned Evaluation Studies**

Ongoing feedback from commodity associations, county agents, external agency employees and other stakeholders will help determine needs and provide evaluation. College program planning and evaluation will also dictate programming in this area. Input from administration and advisory organizations will validate.

The following methods will also be used:

- The number of genotypes identified with induced mutations in candidate genes will be determined annually.
- Evaluation will be done through field trials and real world comparisons of poultry houses with and without ammonia management/reduction strategies. Data collection will consist of measuring ammonia emissions in exhaust air and nitrogen content of litter.
- Methods of P reduction/management will be compared to controls in laboratory experiments and in field trials. Data will be collected from laboratory analyses.
- Evaluations are conducted with various programs for example, related to Landscape Safety Training for Hispanics
- Yeast ecology work will include population sampling. This includes removing organisms from plant hosts, dilution plating and incubations. Colonies are then counted. Rust work will include the assessment of germination and germ-tube length of individual spores. Effects of fungicides on disease progress and biology of rusts will continue.
- Evaluation studies are continuously conducted by comparing the laboratory estimates of the cold hardiness of woody ornamentals to their actual performance in the field.
- It is planned to document case studies of those who have and have not adopted water conservation technology. We would also like to assess the economic impact of adoption of the technology, by comparing non-users with those who have adopted conservation measures.
- Program will be continually evaluated for publications, new cultivar releases and patents. Plants are evaluated and tested. Publications and successful releases are the result.
- In multi-state efforts, review of adoption in other states, provide by their participants in the project, will also be a good indication of the success of the program.

## **V(A). Planned Program (Summary)**

### **Program # 3**

#### **1. Name of the Planned Program**

Consumer Economics and Financial Literacy

#### **2. Brief summary about Planned Program**

Extension specialists will train agents to provide financial literacy programs for youth, individuals in bankruptcy, and other adults based on identified needs. Specialists will also develop curricula, print media and online consumer resources, and program evaluation.

Faculty will promote and provide access to financial and consumer education tools and activities that will assist all Georgians in making wiser decisions and choices in all areas of personal finance management, with special emphasis on early intervention, basic financial literacy, saving/asset building, credit management and rehabilitation, workforce preparedness and bankruptcy.

An apparel and textiles program is designed to help low-income and limited-resource families improve their decision-making skills when making apparel and textile purchases. The program will provide up-to-date information on recent trends and issues in the apparel, textiles and related areas. This program will focus on apparel selection, care, performance, labeling requirements, and new developments in textile fibers. The program will also focus on enhancing the physical well-being, grooming, social skills, and other factors involved in personal appearance. The program is designed for low-income women seeking employment. Participants will develop a positive self-image and develop good wardrobe communication skills.

**3. Program existence :** Mature (More than five years)

**4. Program duration :** Long-Term (More than five years)

**5. Expending formula funds or state-matching funds :** Yes

**6. Expending other than formula funds or state-matching funds :** Yes

**V(B). Program Knowledge Area(s)**

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
607	Consumer Economics	47%	20%	0%	0%
723	Hazards to Human Health and Safety	7%	10%	0%	0%
801	Individual and Family Resource Management	33%	50%	0%	0%
804	Human Environmental Issues Concerning Apparel, Textiles, and Residential and Commercial Structures	13%	20%	0%	0%
	<b>Total</b>	100%	100%	0%	0%

**V(C). Planned Program (Situation and Scope)**

1. Situation and priorities

Competency in managing money appears to be a skill that does not come naturally to everyone. Unless a person is exposed to the practice of money management, he/she is less likely to understand how it works and its long term benefits. It is easy to develop poor spending and financial habits resulting in significant negative consequences.

An increasingly sophisticated financial marketplace, a dramatic shift from defined benefit to defined contribution retirement plans, and longer life spans make it vitally important for Georgia families to understand and implement sound financial management skills and practices. Georgia maintains one of the highest levels of personal bankruptcy in the nation, 4th in 2005. Georgia ranks 14th in the percentage of adults over 25 without a high school diploma; 18th in the number of persons below poverty level (2003); 34th in personal per capita income (2004); and 36th for unemployment (2004).

Financial literacy can also break the cycle of poverty, which is often associated with those individuals who do not have the necessary tools and skills needed to "handle their money." Providing financial literacy is not a one-size-fits-all effort. Financial literacy is most clearly divided into four categories: early intervention, basic literacy, credit rehabilitation and long term planning or asset building.

For many families, just one shift in the status quo of financial resources (e.g. unemployment, death of a breadwinner, divorce, or long-term illness) can be detrimental to financial stability and if persistent, will impace financial security.

2. Scope of the Program

- In-State Extension
- Multistate Extension

**V(D). Planned Program (Assumptions and Goals)**



**1. Assumptions made for the Program**

All Georgians, especially limited resource and low income families, face not only the problem of economic survival, they face the social and psychological consequences of underemployment, unemployment and decimation. The best consumer practices cannot solve the problems of poverty which many families endure. However, effective consumer practices, provision of consumer education and access to financial literacy are important in alleviating many obstructive aspects of poverty. Extreme inequality of income and wealth has weakened the sense of community and common purpose essential to the quality of life in many Georgia communities. Over a hundred thousand residents of Georgia have a need to know and understand financial literacy.

**2. Ultimate goal(s) of this Program**

The goal is to improve personal financial management skills, practices, and knowledge to enhance economic well-being for Georgia families. This is done directly by specialists and through training of agents to deliver research-based best information.

**V(E). Planned Program (Inputs)**

**1. Estimated Number of professional FTE/SYs to be budgeted for this Program**

Year	Extension		Research	
	1862	1890	1862	1890
2012	1.7	0.3	0.0	0.0
2013	1.7	0.3	0.0	0.0
2014	1.7	0.3	0.0	0.0
2015	1.7	0.3	0.0	0.0
2016	1.7	0.3	0.0	0.0

**V(F). Planned Program (Activity)**

**1. Activity for the Program**

In this program, UGA specialists will disseminate personal financial literacy fact sheets, provide personal financial management education classes to agents and select clientele, and provide information to be disseminated by agents to media outlets.

In collaboration with our extension partners and stakeholders FVSU faculty will develop a long range plan for early intervention in financial, literacy and consumer education in targeted areas throughout the state of Georgia.

Monthly training of trainers in financial literacy and consumer education will be conducted. Resources and materials from like-minded consumer advocacy organizations will be disseminated as appropriate. The program will target consumer advocacy organizations and form partnerships with approximately fifty (50) additional collaborators for program goal enhancement, program funding and coalition.

**2. Type(s) of methods to be used to reach direct and indirect contacts**

**Extension**

Direct Methods	Indirect Methods
<ul style="list-style-type: none"> <li>● Education Class</li> <li>● Workshop</li> <li>● Group Discussion</li> <li>● One-on-One Intervention</li> <li>● Demonstrations</li> </ul>	<ul style="list-style-type: none"> <li>● Public Service Announcement</li> <li>● Newsletters</li> <li>● Web sites other than eXtension</li> <li>● Other 1 (Exhibits)</li> </ul>

**3. Description of targeted audience**

Specialists will direct efforts primarily to county agents. As a result, agents will reach youth, parents, senior citizens and others.

The targeted audiences of the FVSU faculty will be all Georgians and residents in surrounding areas with emphasis on all limited resource and low income families and individuals.

**V(G). Planned Program (Outputs)**

NIFA no longer requires you to report target numbers for standard output measures in the Plan of Work. However, all institutions will report actual numbers for standard output measures in the Annual Report of Accomplishments and Results. The standard outputs for which you must continue to collect data are:

- Number of contacts
  - Direct Adult Contacts
  - Indirect Adult Contacts
  - Direct Youth Contacts
  - Indirect Youth Contact
- Number of patents submitted
- Number of peer reviewed publications

Clicking this box affirms you will continue to collect data on these items and report the data in the Annual Report of Accomplishments and Results.

## **V(H). State Defined Outputs**

### **1. Output Measure**

- Number of educational contact hours generated from formal educational programs presented to county extension agents by state faculty directly associated with this planned program.
  - Number of educational contact hours generated from formal educational programs presented directly to clientele by state faculty directly associated with this planned program.
  - Number of significant publications including articles, bulletins and extension publications. (excluding peer reviewed articles)
  - Number of invited presentations by faculty directly resulting from the success of this planned program.
- Clicking this box affirms you will continue to collect data on these items and report the data in the Annual Report of Accomplishments and Results.

**V(I). State Defined Outcome**

<b>O. No</b>	<b>Outcome Name</b>
1	Number of additional direct extension contacts made by volunteers, staff, or county agents not receiving federal funds as a direct outcome of the work of federally funded faculty associated with this planned program.
2	Number of Financial Literacy Education Opportunities

**Outcome # 1**

**1. Outcome Target**

Number of additional direct extension contacts made by volunteers, staff, or county agents not receiving federal funds as a direct outcome of the work of federally funded faculty associated with this planned program.

**2. Outcome Type : Change in Knowledge Outcome Measure**

**2012:6500                      2013:6500                      2014:6500                      2015:6500                      2016:6500**

**3. Associated Knowledge Area(s)**

- 607 - Consumer Economics
- 723 - Hazards to Human Health and Safety
- 801 - Individual and Family Resource Management
- 804 - Human Environmental Issues Concerning Apparel, Textiles, and Residential and Commercial Structures

**4. Associated Institute Type(s)**

- 1862 Extension
- 1890 Extension

**Outcome # 2**

**1. Outcome Target**

Number of Financial Literacy Education Opportunities

**2. Outcome Type : Change in Knowledge Outcome Measure**

**2012:6                      2013:6                      2014:6                      2015:6                      2016:6**

**3. Associated Knowledge Area(s)**

- 801 - Individual and Family Resource Management

**4. Associated Institute Type(s)**

- 1890 Extension

**V(J). Planned Program (External Factors)**

**1. External Factors which may affect Outcomes**

- Natural Disasters (drought, weather extremes, etc.)
- Economy
- Public Policy changes
- Populations changes (immigration, new cultural groupings, etc.)

#### **Description**

Family finances may be affected by natural disasters, either directly (i.e., loss of property) or indirectly (i.e., impact of weather on cost of home energy). Changes in the economy such as rising interest rates or inflation may also impact family financial security. Public policy changes in the areas of taxes, healthcare, financial services, and other areas can also impact family economic well-being.

### **V(K). Planned Program - Planned Evaluation Studies**

#### **Description of Planned Evaluation Studies**

Agent knowledge will be assessed by evaluation tools specific to the content provided. The evaluation database will be used to assess changes in knowledge and intent to change behavior by those reached through county agents.

The FVSU-CEP Resource management program will make use of the most appropriate evaluation and appraisal methodologies to assess, monitor, compare and follow-up the program's improvements, successes and readjustments. Initially, strengths and needs assessments will be conducted with internal and external stakeholders, targeted clientele, clientele receiving direct training and populations indirectly affected by our financial literacy and consumer education programming. All evaluations will involve the following process: Pre-project evaluation; formative/on-going/concurrent evaluation; summative/terminal evaluation and impact/ex-post evaluation. Evaluation of all FVSU-CEP Resource Management programming will be continuous, participatory and constructive. For each financial literacy series a test will be administered beforehand to gauge participants' knowledge prior to completing the class; then the same test will be given at the conclusion of the series to measure increase of knowledge.

## **V(A). Planned Program (Summary)**

### **Program # 4**

#### **1. Name of the Planned Program**

Food Safety

#### **2. Brief summary about Planned Program**

This plan will address food safety by providing research and education related to a) food processing, protection and safety; b) plant production; and c) animal production and protection.

##### Food Processing, protection, and safety

The CDC reports more than 38 million cases of illness annually caused by known pathogens, of which 14 million are considered to be foodborne. The USDA estimates the annual cost of human illness for six foodborne pathogens has reached between \$2.9 and \$6.7 billion and of these costs meat and poultry account for 80 percent.

##### ANIMAL PRODUCTION AND PROTECTION

The planned program will examine several major meat products and the related supply system. Portions of the program will partially fulfill the institution's responsibilities to under-served communities and function as an important complement to current food safety research. The findings will have important implications for U.S. agricultural products' competitiveness in domestic and international markets.

Faculty will offer food safety training and best practices programs for all levels of the meat, poultry, seafood, juices, fresh produce and fresh-cut produce industries. Projects will contribute to an improved information base to ensure a safe, nutritious, dependable and affordable food supply for U.S. consumers. Faculty will assess the benefits and costs of public policies and government regulations affecting health, nutrition and food safety.

The dairy goat industry is one focus of the planned program. Developing a viable industry is challenging for dairy goat farmers due to goat milk's seasonal production, limited capital and resources, difficulties in uniform product quality and quantity and lack of positive consumer perception. The program intends to enhance profitability and sustainability by developing year-round quality products through technological approaches to using peak-season surplus goat milk.

##### POULTRY PRODUCTION AND PROTECTION

Poultry growers will be trained to prevent avian influenza entry into commercial flocks and provided with information to protect their flocks, themselves and the public.

Methods of reducing food pathogens in poultry products will be produced and assistance provided for adoption of these methods.

##### PLANT PRODUCTION

Research activities are geared toward identifying medicinal plants via phytochemical screening, biotechnology application to enhance value-added traits and biomedical research. The introduction of nutraceutical plants for health benefits, developing them as premium crop and emphasizing sustainability will be a major focus.

This research focuses on the 'Bioville', a sustainable self-supporting concept for limited resource farms, and aims to improve quality of life by giving Americans a model of a biological community that produces a majority of items required for basic healthy living in their surroundings. This will especially help limited resource farmers.

Biofuel research may lower dependence on foreign oil. Plants are a rich source of non-edible oil (for

biodiesel) and starch (for ethanol). Research is required to screen plants for rapid biomass production, oil yield and ways to convert sugars trapped in cellulose form into ethanol.

**3. Program existence :** Mature (More than five years)

**4. Program duration :** Long-Term (More than five years)

**5. Expending formula funds or state-matching funds :** Yes

**6. Expending other than formula funds or state-matching funds :** Yes

**V(B). Program Knowledge Area(s)**

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
202	Plant Genetic Resources	0%	0%	1%	0%
204	Plant Product Quality and Utility (Preharvest)	0%	0%	8%	0%
301	Reproductive Performance of Animals	0%	0%	1%	0%
302	Nutrient Utilization in Animals	0%	0%	3%	0%
307	Animal Management Systems	0%	0%	1%	0%
311	Animal Diseases	13%	0%	11%	0%
315	Animal Welfare/Well-Being and Protection	0%	0%	1%	0%
401	Structures, Facilities, and General Purpose Farm Supplies	0%	0%	1%	0%
501	New and Improved Food Processing Technologies	15%	0%	14%	35%
502	New and Improved Food Products	13%	0%	11%	0%
503	Quality Maintenance in Storing and Marketing Food Products	12%	0%	13%	25%
511	New and Improved Non-Food Products and Processes	0%	0%	2%	0%
606	International Trade and Development	0%	0%	4%	0%
701	Nutrient Composition of Food	6%	0%	3%	20%
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins	31%	0%	22%	20%
723	Hazards to Human Health and Safety	10%	0%	4%	0%
	<b>Total</b>	100%	0%	100%	100%

**V(C). Planned Program (Situation and Scope)**



## **1. Situation and priorities**

Consumer demand has changed to reflect accelerated lifestyles, nutrition and health awareness, needs for greater convenience, and a more diverse population. These changes underscore the need for an improved information base to ensure a safe, nutritious, dependable, and affordable food supply for U.S. consumers. Research has also shown that the incidence of foodborne illness has declined dramatically, especially in the meat and poultry industry. This has largely been due to ongoing training and research applications.

The U.S. government has put great emphasis on food-safety, particularly on the hazards and foods that present the greatest risks to public health and impose the greatest economic burden on the nation. The Food and Drug Administration (FDA), the Centers for Disease Control and Prevention (CDC), the Food Safety and Inspection Service (FSIS), and the Agricultural Research Service (ARS), have worked aggressively to reduce bacteria contamination of meat and foodborne diseases. They emphasize preventive controls of the risks and embark upon exploring ways to strengthen surveillance, inspections, and risk assessment to improve the safety of the nation's food supply. The Hazard Analysis and Critical Control Point (HACCP) system represents a successful program in controlling zoonotic pathogens. Despite these efforts, the understanding of pathogens and their transmission along the food supply chain is still limited.

The development of the dairy goat industry has lagged behind its cow dairy counterpart. It is a priority of the state to enhance economic viability and sustainability of the limited resource dairy goat farmers who have long struggled for their survival and business profitability by developing year-round marketable dairy goat products.

The Georgia poultry industry is threatened by avian influenza (AI). If this deadly virus gains a foothold in the poultry industry, massive economic losses to the state will be unavoidable. The Georgia poultry industry contributes over \$13 billion in economic activity, production, plant shutdowns, prevention. However, there will continue to be poultry health concerns for years to come.

The Georgia poultry industry needs an integrated research/extension effort to develop and disseminate science based pathogen reduction strategies.

## **2. Scope of the Program**

- In-State Extension
- In-State Research
- Multistate Research

## **V(D). Planned Program (Assumptions and Goals)**

### **1. Assumptions made for the Program**

The plans for this program assume that faculty will be funded at current levels. It also assumes that current food industry regulations will continue without major restructuring. HACCP was federally mandated for the seafood, meat and poultry industries in 1998. Since that time other industries have been required to develop mandatory HACCP programs, including the juice industry in 2001. FDA is in the process of developing a food safety guidance document for the fresh-cut produce industry, which may lead to mandatory compliance in the near future.

Assumptions also assume that food safety and corresponding social costs will remain a public concern in coming years; there will be more in-depth studies on pathogen transition along the meat supply

chain; food safety will come to be a major factor affecting the competitiveness of foods domestically and abroad; and finally uncertainty and risks of pathogen contamination will continue to characterize the process of food production and supply system.

The negative occurrence of avian influenza in Georgia poultry flocks or the quick and complete elimination of avian influenza from individual infected flocks without the disease spreading must be considered as successes. In addition, the protection of farmers, poultry workers and their families from being infected with avian influenza will be considered a success.

**2. Ultimate goal(s) of this Program**

The goals of this program are to:

- Assess consumer preferences and demands, and their implications for production and marketing practices in the food system.
- Find ways to monitor, control, and reduce hazard and risk in the Farm to Table food supply chain.
- Decrease the incidence of foodborne illness through ongoing training and research application programs.
- To enhance the sustainability and profitability of the dairy goat industry and limited resources farmers who have been economically underserved and struggled in the state and across the nation for a long period of time.

An important goal of this program is to provide 100% of the poultry farmers in the state with relevant information on the critical role they play in avian influenza prevention in commercial poultry flocks. In addition, they will be provided accurate information on human health concerns in regard to avian influenza.

**V(E). Planned Program (Inputs)**

**1. Estimated Number of professional FTE/SYs to be budgeted for this Program**

Year	Extension		Research	
	1862	1890	1862	1890
2012	2.6	0.0	0.5	6.0
2013	2.6	0.0	0.5	6.0
2014	2.6	0.0	0.5	6.0
2015	2.6	0.0	0.5	6.0
2016	2.6	0.0	0.5	6.0

**V(F). Planned Program (Activity)**

**1. Activity for the Program**

The activities of this planned program include:

- Projects to analyze consumer demand for food
- Workshops and short courses for food industry, food service professionals and Extension agents
- Research studies of food processing industry
- Development of models
- Publishing of journal papers and other media.

Research will be carried out on practical methods to reduce pathogens in live production, processing and further processing. Educational meetings will be conducted with poultry processing professionals. Individual problem solving activities will be conducted with processing plants experiencing

excessive contamination levels.

**2. Type(s) of methods to be used to reach direct and indirect contacts**

**Extension**

Direct Methods	Indirect Methods
<ul style="list-style-type: none"> <li>● Education Class</li> <li>● Workshop</li> <li>● One-on-One Intervention</li> </ul>	<ul style="list-style-type: none"> <li>● Newsletters</li> <li>● Web sites other than eXtension</li> </ul>

**3. Description of targeted audience**

Food industry managers, food service professionals, quality assurance professionals, HACCP coordinators, microbiologists, third-party auditors, government inspectors, county extension agents

**V(G). Planned Program (Outputs)**

NIFA no longer requires you to report target numbers for standard output measures in the Plan of Work. However, all institutions will report actual numbers for standard output measures in the Annual Report of Accomplishments and Results. The standard outputs for which you must continue to collect data are:

- Number of contacts
    - Direct Adult Contacts
    - Indirect Adult Contacts
    - Direct Youth Contacts
    - Indirect Youth Contact
  - Number of patents submitted
  - Number of peer reviewed publications
- Clicking this box affirms you will continue to collect data on these items and report the data in the Annual Report of Accomplishments and Results.

## **V(H). State Defined Outputs**

### **1. Output Measure**

- Number of educational contact hours generated from formal educational programs presented directly to clientele by state faculty directly associated with this planned program.
  - Number of significant publications including articles, bulletins and extension publications.
  - Number of persons taking and passing the HACCP certification exam.
  - Number of invited presentations by faculty directly resulting from the success of this planned program.
  - Number of food handlers receiving ServSafe certification from Extension Agent programs.
  - Food Preservation website number of files viewed
- Clicking this box affirms you will continue to collect data on these items and report the data in the Annual Report of Accomplishments and Results.

**V(I). State Defined Outcome**

O. No	Outcome Name
1	Number of additional direct extension contacts made by county faculty not receiving federal funds, staff or volunteers as a direct result of the work of faculty receiving federal funds within this planned program.
2	Average percentage of increase food safety test scores as a result of programs conducted statewide.
3	Multiple or repeat attendance by food processing company personnel (ie, company sends more than one person to our course(s) from one year to the next)

**Outcome # 1**

**1. Outcome Target**

Number of additional direct extension contacts made by county faculty not receiving federal funds, staff or volunteers as a direct result of the work of faculty receiving federal funds within this planned program.

**2. Outcome Type : Change in Knowledge Outcome Measure**

**2012:15000      2013:15000      2014:15000      2015:15000      2016:15000**

**3. Associated Knowledge Area(s)**

- 202 - Plant Genetic Resources
- 204 - Plant Product Quality and Utility (Preharvest)
- 301 - Reproductive Performance of Animals
- 302 - Nutrient Utilization in Animals
- 307 - Animal Management Systems
- 311 - Animal Diseases
- 315 - Animal Welfare/Well-Being and Protection
- 401 - Structures, Facilities, and General Purpose Farm Supplies
- 501 - New and Improved Food Processing Technologies
- 502 - New and Improved Food Products
- 503 - Quality Maintenance in Storing and Marketing Food Products
- 511 - New and Improved Non-Food Products and Processes
- 606 - International Trade and Development
- 701 - Nutrient Composition of Food
- 712 - Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins
- 723 - Hazards to Human Health and Safety

**4. Associated Institute Type(s)**

- 1862 Extension
- 1862 Research

**Outcome # 2**

**1. Outcome Target**

Average percentage of increase food safety test scores as a result of programs conducted statewide.

**2. Outcome Type : Change in Knowledge Outcome Measure**

**2012:20                      2013:20                      2014:20                      2015:20                      2016:20**

**3. Associated Knowledge Area(s)**

- 503 - Quality Maintenance in Storing and Marketing Food Products
- 712 - Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins

**4. Associated Institute Type(s)**

- 1862 Extension

**Outcome # 3**

**1. Outcome Target**

Multiple or repeat attendance by food processing company personnel (ie, company sends more than one person to our course(s) from one year to the next)

**2. Outcome Type : Change in Action Outcome Measure**

**2012:20                      2013:20                      2014:20                      2015:20                      2016:20**

**3. Associated Knowledge Area(s)**

- 501 - New and Improved Food Processing Technologies
- 712 - Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins
- 723 - Hazards to Human Health and Safety

**4. Associated Institute Type(s)**

- 1862 Extension

**V(J). Planned Program (External Factors)**

**1. External Factors which may affect Outcomes**

- Economy
- Appropriations changes
- Public Policy changes
- Government Regulations
- Competing Public priorities
- Competing Programmatic Challenges

## **Description**

Changes in government mandates for food safety will dramatically increase the need for this planning program. Poor economy will decrease the number of people participating in the planned program.

## **V(K). Planned Program - Planned Evaluation Studies**

### **Description of Planned Evaluation Studies**

- Planned evaluation studies will be carried out annually during the research program period with the final evaluation studies to be conducted after the project termination. Data collection methods will vary depending on individual research objectives and will utilize sampling as well as whole population of research materials used.
- Evaluation will be based on negative results; that is the absence of AI in Georgia poultry flocks. Data will be collected from participants in trainings and state and federal agencies responsible for poultry health.
- Program will be evaluated by industry feedback, measured reductions in pathogens, and continued competitiveness of Georgia processors. USDA and CDC statistics will be used.
- Pre-slaughter management methods that showed the best results from our studies will be recommended to commercial farmers. The feedback obtained from producers and processors will be factored into the assessment of the program. Statistically valid scientific experiments will be designed and conducted at research facilities.
- Agent knowledge will be assessed by written tests specific to the content provided. If new programs are developed for direct use with clientele, evaluation tools will be developed specific to the content provided. Agent tests will be administered at the education classes. Survey of website users will be done via e-mail and website solicitation.
- During program evaluation by break-out group coordinators based on reports given at each stage of HACCP plan development training. Post program evaluation filled out by participants and tallied, with copies sent to all presenters/ trainers for their input. Retrospective examination of last year's evaluations will take place during the planning of the next year's agenda to incorporate suggestions and concerns, as applicable.



## **V(A). Planned Program (Summary)**

### **Program # 5**

#### **1. Name of the Planned Program**

Global Food Security and Hunger

#### **2. Brief summary about Planned Program**

This planned program will provide education and research to areas of a) animal production industry and proper management, nutrition and health; b) agriculture and food defense; c) aquaculture; d) meat and dairy goat production; e) plant production and protection; and f) sustainability.

##### **ANIMAL PRODUCTION**

Cattle, sheep and goat producers will learn ways to improve genetics, profitability and producer record value. Research will focus on reproductive efficiency and genetics. New forages, grains and management/nutrition systems will improve cattle performance and efficiency. On Georgia dairy farms, improved reproductive management and milk production, mastitis prevention and financial management is one focus. Extension education on livestock pest control will be offered. Swine feeding research will center on nutrient use and animal intake signals.

##### **AGRICULTURE & FOOD DEFENSE**

This Extension program will work to increase Georgia's ability to react to and recover from disasters related to food supply and agriculture.

##### **AQUACULTURE**

Faculty will aid with business plans for a catfish processing plant and a catfish/freshwater prawn farm in rural Georgia. The program includes plant personnel and producer training, marketing and UGA/FVSU collaboration with Auburn and Kentucky State University. The Georgia Center for Aquaculture Development will provide aquatic animal disease diagnostics and evaluate re-circulating aquaculture systems. Fish, prawns, shrimp and aquatic organisms will be grown to determine feed, stocking, water management and waste nutrient reuse. Workshops and newsletters/publications will cover animal health, management and water quality.

##### **GOAT MEAT AND DAIRY PRODUCTION**

A large-scale sample survey will be used to study goat meat marketing, industry growth problems, production, supply, demand and rural development impacts. Development of year-round quality dairy goat products will strengthen farmers' local economies and lead to much-needed scientific research.

##### **PLANT PRODUCTION AND PROTECTION**

A program will characterize genetics behind important plants, develop new breeding tools and provide plant breeder education and training. Another on economically destructive diseases will improve plant disease management. One on agronomic commodities, weed management and forages will include insect genetics and biology, immunology, endocrinology, systematics and mode of Bt toxins and transgenic plants. Plant varieties' suitability, fertility management and cultural practices will be evaluated. Technology providing the greatest returns and lessening environmental impact will be developed for Georgia's greatest-valued agricultural industries. Faculty will give producers the latest production information through educational programs and statewide research.

##### **SUSTAINABILITY**

Sustainable agricultural practices will be researched, developed and promoted to help small farms with alternative enterprises, organic production and niche markets; large farms move toward IPM and

conservation tillage; and communities be more sustainable. Faculty will provide economic analyses to increase farm income and productivity and reduce value-added commodities and new product development risk.

**3. Program existence :** Mature (More than five years)

**4. Program duration :** Long-Term (More than five years)

**5. Expending formula funds or state-matching funds :** Yes

**6. Expending other than formula funds or state-matching funds :** Yes

**V(B). Program Knowledge Area(s)**

## 1. Program Knowledge Areas and Percentage

<b>KA Code</b>	<b>Knowledge Area</b>	<b>%1862 Extension</b>	<b>%1890 Extension</b>	<b>%1862 Research</b>	<b>%1890 Research</b>
102	Soil, Plant, Water, Nutrient Relationships	12%	11%	12%	6%
111	Conservation and Efficient Use of Water	2%	3%	2%	1%
112	Watershed Protection and Management	4%	5%	4%	3%
121	Management of Range Resources	1%	0%	1%	0%
125	Agroforestry	0%	0%	1%	0%
131	Alternative Uses of Land	0%	8%	0%	4%
133	Pollution Prevention and Mitigation	5%	6%	4%	3%
201	Plant Genome, Genetics, and Genetic Mechanisms	27%	0%	26%	0%
204	Plant Product Quality and Utility (Preharvest)	11%	0%	13%	0%
205	Plant Management Systems	18%	0%	18%	0%
216	Integrated Pest Management Systems	6%	0%	4%	0%
301	Reproductive Performance of Animals	1%	0%	1%	0%
303	Genetic Improvement of Animals	1%	0%	1%	23%
304	Animal Genome	0%	0%	0%	7%
307	Animal Management Systems	5%	22%	6%	22%
311	Animal Diseases	0%	13%	0%	0%
403	Waste Disposal, Recycling, and Reuse	0%	2%	0%	1%
503	Quality Maintenance in Storing and Marketing Food Products	4%	0%	4%	0%
601	Economics of Agricultural Production and Farm Management	3%	30%	2%	16%
701	Nutrient Composition of Food	0%	0%	1%	14%
	<b>Total</b>	100%	100%	100%	100%

**V(C). Planned Program (Situation and Scope)**

## 1. Situation and priorities

To be competitive, producers must understand existing management practices as well as become informed of new technologies as they are developed. Producers need a reliable scientific basis for selecting genetically superior animals. Producers need programs they can participate in to evaluate their animals to identify superior genetics. In addition, carcass data is becoming increasingly important in

establishing the value of animal at slaughter. Producers need production protocols that can be used successfully on their operations to properly manage their animals to maximize profitability.

Feed continues to account for the majority of the cost of production in meat animals. A greater understanding of intake, its regulation and efficiency of nutrient utilization not only impacts cost of production, but can also affect the impact of animal agriculture on the environment.

Mastitis in dairy cattle is a leading cause in the reduction in milk yield and milk quality worldwide. In the US alone, losses to dairymen approach \$2 billion annually. Pests produce significant losses in animal agriculture, affecting productivity and requiring outlays for control.

Reproductive efficiency is 15 times more economically important to an individual animal producer than carcass quality, and 10 times more economically important than weaning weights. This means that 70% of every dollar a producer makes is directly attributable to the reproductive efficiency of his or her herd or flock. Failure of animals to initiate estrous cycles and become pregnant during the breeding season is one of the primary causes of economic loss to animal producers today.

Current heat detection levels in Georgia dairy animals are very low, and eliminating some of the need for heat detection could be extremely beneficial to producers and improve overall reproductive efficiency. Much more research is needed to evaluate a productive and cost effective synchronization program.

Because of genetic selection for increased growth rate, broiler breeders have acquired reduced reproductive traits including decreased egg production, decreased sperm volume/motility/mobility, and reduced hatchability.

## **2. Scope of the Program**

- In-State Extension
- In-State Research
- Multistate Research
- Multistate Extension
- Integrated Research and Extension
- Multistate Integrated Research and Extension

## **V(D). Planned Program (Assumptions and Goals)**

### **1. Assumptions made for the Program**

Livestock producers need and want improved management practices. They want to increase profitability through the use of best practices and improved inputs.

Producers will learn to identify livestock that excel in performance. Producers will learn production practices required to properly raise performance and will learn through educational opportunities provided.

Improving reproductive efficiency will lower costly days open by lowering calving intervals and increasing annual milk production. Producers must see more heats, increase conception rates and lower post partum breeding policy.

Successful control of mastitis by eliminating ongoing infections and preventing new cases by

appropriate antimicrobial therapy will reduce incidence of this disease, improve milk quality, enhance animal health and well-being, and improve milk safety for the consumer.

Livestock depend on green forages for economical calf production and quality hay to reduce winter feeding expenses. Improved hay quality, improved forage varieties, increased use of by-product feeds and poultry litter as feeds may reduce costs. Improved management programs may increase productivity of cattle production.

Since growth rate continues to be the primary selection factor utilized in broiler breeder selection, reproductive performance will continue to decline. Preventing, minimizing or eliminating the decline would all be considered successes.

**2. Ultimate goal(s) of this Program**

A goal of this program is establishing multi-departmental, multi-college programming that offers in-depth, advanced educational programming which allows producers to understand existing technologies and become familiar with developing technologies.

The programs will educate the animal production industry on correct production practices required to improve economic returns. The programs will identify animals with superior genetics. The program will improve reproductive efficiency in livestock. Development of a forage or forage system that will supply year-round high quality forage is the goal.

In the dairy industry, this program will improve breeding efficiency & effectiveness. Successful control of mastitis will increase economic returns to the producer and provide a wholesome and safe product to the consumer. Financial management research and educational programs will improve the business functions of the dairy industry. A database will be used to establish benchmarks and to provide reports to the cooperating dairy with suggestions for financial improvement.

Faculty will keep all livestock producers apprised of changes in available products, efficacy, pest resistances and recommendations for pest management. Nutrition research aspects of the program will further investigate how animals are able to monitor changes in physiological demand for nutrients and nutrient supply from the diet. It will be to investigate differences in the efficiency of nitrogen and phosphorous utilization and to determine if it is feasible to select for improved utilization of these nutrients.

Overall this program will increase animal agriculture value through reduced losses and enhanced health/productivity.

**V(E). Planned Program (Inputs)**

**1. Estimated Number of professional FTE/SYs to be budgeted for this Program**

Year	Extension		Research	
	1862	1890	1862	1890
2012	59.5	1.5	42.0	9.3
2013	59.5	1.5	42.0	9.3
2014	59.5	1.5	42.0	9.3
2015	59.5	1.5	42.0	9.3

Year	Extension		Research	
	1862	1890	1862	1890
2016	59.5	1.5	42.0	9.3

**V(F). Planned Program (Activity)**

**1. Activity for the Program**

A bull testing program and heifer evaluation program will be conducted at two locations per year in Georgia. The Georgia Beef Challenge will evaluate calves for feedlot performance and carcass evaluation in commercial feedlots located in Iowa.

The University of Georgia's "Beef Team" will offer the Master Cattlemen's Program. This program involves detailed, in-depth educational seminars related to beef cattle. A maximum of two programs will be offered annually throughout the state.

Faculty will maintain a web site for the International Dairy Heat Stress Consortium. Regional workshops will be held for producers and are conducted as requested by extension personnel across Georgia. Faculty will assist with the Commercial & Purebred Dairy Projects as well as other 4-H & FFA activities, including dairy evaluation & dairy quiz bowl. Dairy farms in Georgia will participate in a financial research study. The financial performance results of this program will be published and shared in an effort to increase farm profitability.

Studies will be conducted to examine swine intake regulation. These will add to our understanding of the key regulatory points that can be applied in the industry to improve efficiency and reduce cost of production. Studies examining the efficiency of nitrogen and phosphorous utilization will be conducted concurrently that have the potential to reduce the environmental impact of animal agriculture.

Annually this program will update Extension agents and clientele in pest control, through one-on-one discussions, meetings, or publications. It will provide pest overviews for organizations such as the Georgia Cattlemen's Association. Every year faculty will update eleven sections of the Georgia Pest Management Handbook and provide biennial estimation of pest losses in livestock and dairy production.

Research will continue that compares different bahiagrass and bermudagrass. Evaluation of new forages including Coastcross II for grazing and hay quality; and, pigeon peas for grazing and for grain production for cattle feeding will continue. By-product feeds will be evaluated for nutritional and economic value in beef production systems.

New scientific information will be made available to scientific peers through the publication of original research articles in scientific journals. More applied knowledge will be disseminated to the audience at large (producers, practicing veterinarians, extension personnel) by publishing results in journal articles or departmental research reports and by coordinating presentations with extension personnel.

**2. Type(s) of methods to be used to reach direct and indirect contacts**

Extension	
Direct Methods	Indirect Methods

- |   |   |
|---|---|
| <ul style="list-style-type: none"><li>● Education Class</li><li>● Group Discussion</li><li>● One-on-One Intervention</li><li>● Demonstrations</li></ul> | <ul style="list-style-type: none"><li>● Newsletters</li><li>● Web sites other than eXtension</li><li>● Other 1 (Popular Press Articles)</li></ul> |
|---|---|

### 3. Description of targeted audience

The target audience is sheep, goat, beef & pork producers, dairymen, county agents, veterinarians, and industry professionals.

### V(G). Planned Program (Outputs)

NIFA no longer requires you to report target numbers for standard output measures in the Plan of Work. However, all institutions will report actual numbers for standard output measures in the Annual Report of Accomplishments and Results. The standard outputs for which you must continue to collect data are:

- Number of contacts
    - Direct Adult Contacts
    - Indirect Adult Contacts
    - Direct Youth Contacts
    - Indirect Youth Contact
  - Number of patents submitted
  - Number of peer reviewed publications
- Clicking this box affirms you will continue to collect data on these items and report the data in the Annual Report of Accomplishments and Results.

## **V(H). State Defined Outputs**

### **1. Output Measure**

- Number of significant publications including articles, bulletins and extension publications. (excluding peer reviewed articles)
  - Number of educational contact hours generated from formal educational programs presented to county extension agents by state faculty directly associated with this planned program.
  - Number of educational contact hours generated from formal educational programs presented directly to clientele by state faculty directly associated with this planned program.
  - Number of invited presentations by faculty directly resulting from the success of this planned program.
  - Number of disease samples processed by diagnostic laboratory.
  - Number of field experiments to develop disease management approaches.
  - Number of international contacts
  - Website page views
- Clicking this box affirms you will continue to collect data on these items and report the data in the Annual Report of Accomplishments and Results.



**V(I). State Defined Outcome**

O. No	Outcome Name
1	Number of additional direct extension contacts made by county faculty not receiving federal funds, staff or volunteers as a direct result of the work of faculty receiving federal funds within this planned program.
2	Number of Master Cattlemen certifications granted through this planned program.
3	Increase in the farm gate value of livestock production in Georgia. Reported in millions of dollars.
4	Farm gate value of poultry production in Georgia. Value reported annually in millions of dollars.
5	Medium term: development of disease management approaches the reduce disease damage by 65%

**Outcome # 1**

**1. Outcome Target**

Number of additional direct extension contacts made by county faculty not receiving federal funds, staff or volunteers as a direct result of the work of faculty receiving federal funds within this planned program.

**2. Outcome Type : Change in Knowledge Outcome Measure**

**2012:31000      2013:31000      2014:31000      2015:31000      2016:31000**

**3. Associated Knowledge Area(s)**

- 102 - Soil, Plant, Water, Nutrient Relationships
- 111 - Conservation and Efficient Use of Water
- 112 - Watershed Protection and Management
- 121 - Management of Range Resources
- 125 - Agroforestry
- 131 - Alternative Uses of Land
- 133 - Pollution Prevention and Mitigation
- 201 - Plant Genome, Genetics, and Genetic Mechanisms
- 204 - Plant Product Quality and Utility (Preharvest)
- 205 - Plant Management Systems
- 216 - Integrated Pest Management Systems
- 301 - Reproductive Performance of Animals
- 303 - Genetic Improvement of Animals
- 304 - Animal Genome
- 307 - Animal Management Systems
- 311 - Animal Diseases
- 403 - Waste Disposal, Recycling, and Reuse
- 503 - Quality Maintenance in Storing and Marketing Food Products
- 601 - Economics of Agricultural Production and Farm Management
- 701 - Nutrient Composition of Food

**4. Associated Institute Type(s)**

- 1862 Extension
- 1862 Research
- 1890 Extension
- 1890 Research

**Outcome # 2**

**1. Outcome Target**

Number of Master Cattlemen certifications granted through this planned program.

**2. Outcome Type : Change in Knowledge Outcome Measure**

**2012:65                      2013:65                      2014:65                      2015:65                      2016:65**

**3. Associated Knowledge Area(s)**

- 121 - Management of Range Resources
- 301 - Reproductive Performance of Animals
- 303 - Genetic Improvement of Animals
- 307 - Animal Management Systems
- 311 - Animal Diseases
- 601 - Economics of Agricultural Production and Farm Management
- 701 - Nutrient Composition of Food

**4. Associated Institute Type(s)**

- 1862 Extension

**Outcome # 3**

**1. Outcome Target**

Increase in the farm gate value of livestock production in Georgia. Reported in millions of dollars.

**2. Outcome Type : Change in Condition Outcome Measure**

**2012:1145                      2013:1145                      2014:1145                      2015:1145                      2016:1145**

**3. Associated Knowledge Area(s)**

- 102 - Soil, Plant, Water, Nutrient Relationships
- 121 - Management of Range Resources
- 301 - Reproductive Performance of Animals
- 303 - Genetic Improvement of Animals
- 304 - Animal Genome
- 307 - Animal Management Systems
- 311 - Animal Diseases
- 503 - Quality Maintenance in Storing and Marketing Food Products
- 601 - Economics of Agricultural Production and Farm Management
- 701 - Nutrient Composition of Food

**4. Associated Institute Type(s)**

- 1862 Extension
- 1862 Research
- 1890 Extension
- 1890 Research

**Outcome # 4**

**1. Outcome Target**

Farm gate value of poultry production in Georgia. Value reported annually in millions of dollars.

**2. Outcome Type : Change in Condition Outcome Measure**

<b>2012:5346</b>	<b>2013:5346</b>	<b>2014:5346</b>	<b>2015:5346</b>	<b>2016:5346</b>
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**3. Associated Knowledge Area(s)**

- 301 - Reproductive Performance of Animals
- 303 - Genetic Improvement of Animals
- 307 - Animal Management Systems
- 311 - Animal Diseases
- 601 - Economics of Agricultural Production and Farm Management
- 701 - Nutrient Composition of Food

**4. Associated Institute Type(s)**

- 1862 Extension
- 1862 Research

**Outcome # 5**

**1. Outcome Target**

Medium term: development of disease management approaches the reduce disease damage by 65%

**2. Outcome Type : Change in Knowledge Outcome Measure**

<b>2012:50</b>	<b>2013:55</b>	<b>2014:60</b>	<b>2015:65</b>	<b>2016:65</b>
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**3. Associated Knowledge Area(s)**

- 201 - Plant Genome, Genetics, and Genetic Mechanisms
- 204 - Plant Product Quality and Utility (Preharvest)

- 205 - Plant Management Systems

#### **4. Associated Institute Type(s)**

- 1862 Research

### **V(J). Planned Program (External Factors)**

#### **1. External Factors which may affect Outcomes**

- Natural Disasters (drought, weather extremes, etc.)
- Economy
- Appropriations changes
- Public Policy changes
- Government Regulations
- Competing Programmatic Challenges

#### **Description**

Weather disasters are a major factor affecting animal production. Drought conditions can cause reductions in the number of cattle due to feeding pressures. Forage production for hay and grazing depends on weather conditions--drought could diminish expected productivity of new and experimental forages, affect stands, ultimately affect livestock production and profitability. Heat stress is responsible for large declines in pregnancy rates of dairy cattle during hot months throughout much of the United States.

A decrease in cattle prices or the overall economy would have great impact on this program. If the price drops substantially, producers may be less willing to focus on beef production and allocate their priorities and time towards other commodities.

Changing laws and EPA regulatory intervention affect how pests are managed, what products are available, and limitations on options available to producers.

Reduced public funding for fundamental forage and livestock production research could depress initiative to conduct needed high-quality research. Competing programs may force abandonment of on-going research programs.

### **V(K). Planned Program - Planned Evaluation Studies**

#### **Description of Planned Evaluation Studies**

Evaluation Studies include:

- Formal programs and workshops will be selected across this program area for in-depth participant evaluation. Participants will be evaluated for knowledge gained. A follow-up survey will be conducted to access change in behavior or practice.
- Evaluation will consist of changes in production practices or production success after being

exposed to the programs. The listed methods will be used to collect data on adoption and implementation of programs. Standard scientific practices associated with the various protocols used will be employed.

- Master Cattleman: An evaluation of the Master Cattleman program will be done after the completion of each final session. One year after the program, a post-meeting survey assesses any changes made and the overall impacts as a result of the program.

- Research on mastitis in dairy cattle will involve verifying success of experimental research conditions and results disseminating results to end users. Comparisons between program participants will involve performing a field trial using dairymen using new technology verses those who do not. Evaluation methods include - Sampling: Of milk sample from cases of mastitis before and after treatment with experimental product. Case Study: Determine effectiveness of product using individual cases of mastitis in cooperator herds. Observation: Of individual cows which receive the new product for any effects on animal health. Tests: Performed in laboratory to determine bacterial species of infecting bacteria and for determination of somatic cells counts as a measure of inflammation.

- Input will be sought from the American Seed Research Foundation and the American Seed Trade Association Vegetable Technical Subcommittee. These stakeholders will provide direct feedback on the usefulness of the data generated. Seed testing laboratories will participate in comparative evaluations of the new seed health assays and subsequently, they will be surveyed to determine their level of success.

- Data analysis will allow comparison of results of the experiments to determine which of the feeding systems improved animal performance. Production data will be used for cost and benefit analysis to select profitable production systems.

- Replicated experimental plots will also be established to evaluate soil organic amendments, crops and forages. Data collection methods will consist of soil sampling for nutrients; vegetable, agronomic and forage crops harvest for yield.

- The success of aquaculture production systems will be evaluated by final aquatic animal health and survival, net production, production efficiency, feed conversion ratios, water quality measurements and economics of the system. Surveys will determine if workshop attendees have incorporated training into starting or continuing aquaculture enterprises.

- Methods will be evaluated and validated in the field. Adoption of methods by poultry producers will be considered proof that program has succeeded.

- Impact of research on conserving natural resources will be analyzed by conducting survey those impacted by population pressures on natural resources; and surveys to measure impact of changes in economic activities.

- Researcher will compare disease intensity, control costs, and economic returns before and after program using standard, statistically based data collection protocols. Economic data will be obtained from producers and extension personnel.
  
- Animals in the evaluation programs will be subjected to the following measurements: weight gain, reproductive tract traits, pregnancy status, frame size, and carcass traits utilizing both ultrasound and post-harvest carcass measurements. Animals will be evaluated for disposition, coat color, and structural abnormalities.
  
- Studies will be evaluated by observing the amount of bacterial suppression offered by the programs implemented. Disease data will be recorded as a severity scale of 1-10. Yield and quality of vegetables will also be measured. Return on investment will also be measured and based on the price of the product sold as it relates to the cost of bacterial spot control.

**V(A). Planned Program (Summary)**

**Program # 6**

**1. Name of the Planned Program**

Sustainable Energy

**2. Brief summary about Planned Program**

The development of an integrated biorefinery industry in Georgia will stimulate our rural economies, sustain our core forest and agriculture industries, increase our tax revenues, improve our environment, and contribute to addressing the critical problem of global warming. Thus, the State of Georgia has begun investing in Research, Development, Outreach, and Technology Transfer through the University of Georgia that is providing statewide leadership required to develop and implement this biorefinery industry.

Research projects will be developed and conducted to improve on existing technologies and identify new and emerging technologies. New markets will be established for biomass resources. New fuels for transportation will be developed along with new bio-based products.

**3. Program existence :** Intermediate (One to five years)

**4. Program duration :** Long-Term (More than five years)

**5. Expending formula funds or state-matching funds :** Yes

**6. Expending other than formula funds or state-matching funds :** Yes

**V(B). Program Knowledge Area(s)**

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
123	Management and Sustainability of Forest Resources	0%	100%	0%	0%
133	Pollution Prevention and Mitigation	33%	0%	33%	0%
403	Waste Disposal, Recycling, and Reuse	33%	0%	33%	0%
605	Natural Resource and Environmental Economics	34%	0%	34%	0%
	<b>Total</b>	100%	100%	100%	0%

**V(C). Planned Program (Situation and Scope)**

**1. Situation and priorities**

Of Georgia's 24.7 million acres in forestland, 17.96 million acres are owned by private non-industrial landowners. Research studies have documented that small, minority and limited resource landowners and farmers are often not aware of and/or been denied access to opportunities that will aide in sustaining and/or increasing their land productivity in the area of forest management.

Biomass resources are not efficiently utilized in the region. Energy costs are increasing, national security is threatened, rural economies are in decline, climate change is affecting quality of life.



Although many of the individual sub-process technologies have been previously in development (e.g. Pyrolysis Process, Biodiesel and Fisher-Tropsch Process) and some are in commercial operation, they have not been integrated in a manner to provide maximum biorefining. In addition, opportunities exist that will allow the development of new products and the improvement of existing processes making them commercially viable. Some of the information gaps identified and overall directions of research and outreach are listed below.

Biomass Pre-treatment: Biomass (e.g. wood wastes, forest residues, agricultural residues) is found in different locations and in different forms. The ability to use these in a general-purpose integrated biorefinery is dependent on appropriate pretreatment options that convert them to a flexible feedstock.

Process Development: Although a part of process development is complete, there are areas for improvements that will benefit efforts before scale up. Maximizing efficiency of the process will be achieved by completing some technical tasks.

Product Diversity: A significant thrust to develop new products and markets for these products will improve economics of conversion technologies.

Demonstrations and Technology Transfer: Scaled-up demonstration is the most important step towards rapid commercialization. These tasks will ensure technology development is complete, provide data for further improvements in process scale up, and provide a source from which private industry (entrepreneurs) will draw encouragement and technical help to pursue the development of this industry in Georgia.

## **2. Scope of the Program**

- In-State Extension
- In-State Research
- Integrated Research and Extension
- Multistate Integrated Research and Extension

## **V(D). Planned Program (Assumptions and Goals)**

### **1. Assumptions made for the Program**

Technology solutions exist to mitigate problems identified in this planned program. Biomass resources are abundant in Georgia and the region. And the use of biomass resources can provide economic growth.

The program assumes the need for alternative fuels will increase. It assumes government regulations and funding will support future research and development.

There is a need to increase the number of forest management plans that include wildlife for small, minority, and limited resource landowners; Increase the number of small, minority and limited resource forest landowners participating in federal and state cost-share programs; Increase the number of minority and limited resource forest landowners participating in workshops and other meetings; Increase the number publications distributed among minority communities.

### **2. Ultimate goal(s) of this Program**

The development of an integrated biorefinery industry in Georgia that will stimulate our rural economies, sustain our core forest and agriculture industries, increase our tax revenues, improve our

environment, and contribute to addressing the critical problem of global warming.

**V(E). Planned Program (Inputs)**

**1. Estimated Number of professional FTE/SYs to be budgeted for this Program**

Year	Extension		Research	
	1862	1890	1862	1890
2012	4.9	0.2	4.8	0.0
2013	4.9	0.2	4.8	0.0
2014	4.9	0.2	4.8	0.0
2015	4.9	0.2	4.8	0.0
2016	4.9	0.2	4.8	0.0

**V(F). Planned Program (Activity)**

**1. Activity for the Program**

Research projects will be developed and conducted to improve on existing technologies and identify new and emerging technologies. Examples of research projects under development or implementation are discussed below. Many projects are currently underway or in the planning stages.

A project evaluating the production of hydrogen from peanut hull and pine chips biomass is underway. Peanuts and pine chips are plentiful in Georgia. Additional tests are beginning on the use of char in Agriculture. Two chars (peanut hulls and pine chips) produced from the process will be evaluated for nutrient benefits, water holding and irrigation benefits, and carbon sequestrations benefits.

BioOil has been developed by pyrolyzing pine pellets in a pilot scale system. Blends of BioOil with other solvents/fuels have been prepared and are being characterized. BioOil blend analysis and testing is ongoing. Plans for engine performance testing will begin soon.

The transesterification of oils and fats to produce biodiesel is being studied. This work evaluates new sources of oils and fast that could be substrates for producing biodiesel. Once developed, the biodiesel will be tested for properties and behavior in engine testing. Georgia grasses are being hydrolyzed through a hot water extraction process to generate fermentable sugars. These will be further broken down before fermentation. The final sugar solution will be fermented for producing ethanol.

Faculty will provide workshops and/or field days; newsletters and/or fact sheets development and distribution; site visits; educational exhibits related to forestry.

**2. Type(s) of methods to be used to reach direct and indirect contacts**

**Extension**

Direct Methods	Indirect Methods
----------------	------------------

- |  |  |
|--|--|
| <ul style="list-style-type: none"><li>● Education Class</li><li>● Workshop</li><li>● Group Discussion</li><li>● One-on-One Intervention</li><li>● Demonstrations</li></ul> | <ul style="list-style-type: none"><li>● Public Service Announcement</li><li>● TV Media Programs</li><li>● Web sites other than eXtension</li></ul> |
|--|--|

### 3. Description of targeted audience

Farmers, agribusiness, community leaders, entrepreneurs

Small, minority, and limited resource landowners and farmers

### V(G). Planned Program (Outputs)

NIFA no longer requires you to report target numbers for standard output measures in the Plan of Work. However, all institutions will report actual numbers for standard output measures in the Annual Report of Accomplishments and Results. The standard outputs for which you must continue to collect data are:

- Number of contacts
  - Direct Adult Contacts
  - Indirect Adult Contacts
  - Direct Youth Contacts
  - Indirect Youth Contact
- Number of patents submitted
- Number of peer reviewed publications

Clicking this box affirms you will continue to collect data on these items and report the data in the Annual Report of Accomplishments and Results.

### V(H). State Defined Outputs

#### 1. Output Measure

- Number of significant publications including articles, bulletins and extension publications. (excluding peer reviewed articles)
- Number of educational contact hours generated from formal educational programs presented to county extension agents by state faculty directly associated with this planned program.
- Number of educational contact hours generated from formal educational programs presented directly to clientele by state faculty directly associated with this planned program.
- Number of invited presentations by faculty directly resulting from the success of this planned program.
- Number of site visits to landowners/farmers

- Clicking this box affirms you will continue to collect data on these items and report the data in the Annual Report of Accomplishments and Results.

**V(I). State Defined Outcome**

<b>O. No</b>	<b>Outcome Name</b>
1	Number of additional direct extension contacts made by volunteers, staff, or county agents not receiving federal funds as a direct outcome of the work of federally funded faculty associated with this planned program.
2	Total number of site visits made to small, minority, and limited resource landowners and farmers

**Outcome # 1**

**1. Outcome Target**

Number of additional direct extension contacts made by volunteers, staff, or county agents not receiving federal funds as a direct outcome of the work of federally funded faculty associated with this planned program.

**2. Outcome Type : Change in Knowledge Outcome Measure**

**2012:50                      2013:50                      2014:50                      2015:50                      2016:50**

**3. Associated Knowledge Area(s)**

- 123 - Management and Sustainability of Forest Resources
- 133 - Pollution Prevention and Mitigation
- 403 - Waste Disposal, Recycling, and Reuse
- 605 - Natural Resource and Environmental Economics

**4. Associated Institute Type(s)**

- 1862 Extension
- 1890 Extension

**Outcome # 2**

**1. Outcome Target**

Total number of site visits made to small, minority, and limited resource landowners and farmers

**2. Outcome Type : Change in Knowledge Outcome Measure**

**2012:300                      2013:300                      2014:300                      2015:300                      2016:300**

**3. Associated Knowledge Area(s)**

- 123 - Management and Sustainability of Forest Resources

**4. Associated Institute Type(s)**

- 1890 Extension

**V(J). Planned Program (External Factors)**

**1. External Factors which may affect Outcomes**

- Natural Disasters (drought, weather extremes, etc.)
- Economy

- Appropriations changes
- Public Policy changes
- Government Regulations
- Competing Public priorities
- Competing Programmatic Challenges
- Populations changes (immigration, new cultural groupings, etc.)

**Description**

Government regulation and policies will directly impact the success of this program. The price of and availability of traditional energy sources can affect the amount of resources directed to this program.

**V(K). Planned Program - Planned Evaluation Studies**

**Description of Planned Evaluation Studies**

Participants in educational programs will be evaluated for knowledge gained through program surveys.

**V(A). Planned Program (Summary)**

**Program # 7**

**1. Name of the Planned Program**

Housing and the Near Environment

**2. Brief summary about Planned Program**

This program will include education in maintaining a safe, clean and healthy home environment. Faculty will provide training on indoor air quality. They will teach consumers how to reduce exposure to indoor air quality contaminants in the home. Faculty will provide classes and educational information in water and energy conservation, waste reduction and recycling, particularly hazardous waste disposal.

Through the homebuyer education program, faculty will help consumers gain the knowledge they will need to become successful homeowners. This includes ensuring that participants have an understanding of the buying process, mortgages, financial management, and how to prevent foreclosure and default.

**3. Program existence :** Mature (More than five years)

**4. Program duration :** Long-Term (More than five years)

**5. Expending formula funds or state-matching funds :**Yes

**6. Expending other than formula funds or state-matching funds :** Yes

**V(B). Program Knowledge Area(s)**

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
801	Individual and Family Resource Management	0%	25%	0%	0%
804	Human Environmental Issues Concerning Apparel, Textiles, and Residential and Commercial Structures	100%	50%	0%	0%
903	Communication, Education, and Information Delivery	0%	25%	0%	0%
	<b>Total</b>	100%	100%	0%	0%

**V(C). Planned Program (Situation and Scope)**

**1. Situation and priorities**

In Georgia, many of the existing sanitary landfills are nearing capacity, causing concern for the disposal of household waste. In rural communities, many homes depend on underground water supplies which may be contaminated. Demand for energy continues to increase, in spite of rising costs.

Indoor air quality problems are caused by indoor contaminants including, but not limited to, radon, environmental tobacco smoke, biological contaminants, combustion by-products, household products, volatile organic compounds, pesticides, asbestos, and lead. Health effects of these contaminants range from allergic reaction in sensitive populations to death. Additionally, health effects of some contaminants



are unknown at this time.

The goal of homeownership for many consumers is unattainable. Housing is an essential need for all persons. Not only is it a place for shelter, but it also has deep psychological and emotional influences on people, providing them with a feeling of safety and security. Many consumers are overwhelmed by the home buying process. A severe shortage of affordable housing for Georgia's workforce exists. One in four households earning less than 80 percent of the area median income spend 50 percent or more on housing. Once in a home, families often encounter an overwhelming number of home repairs and maintenance demands. When affordable housing is unavailable to low-income households, family resources needed for food, medical care, and other necessities are diverted to housing costs.

Residential instability results as families are forced to move frequently, live with other families in overcrowded conditions, or experience periods of homelessness. Residential instability is associated with children's poor attendance and performance in school, no primary source of medical care, lack of preventive health services, various acute and chronic medical conditions, sexual assault and violence. Additionally, the access to homebuyer education in rural counties is often unavailable and, if provided, may require travel to a location outside of the county. The University of Georgia's (UGA) Workforce Housing in Georgia report states, "Georgia must increase the consumer literacy of its workforce by educating them and community leadership regarding existing housing programs and resources should be available in the state." UGA's Housing and Demographics Research Center indicated, "The state should provide education and outreach to the community regarding affordable housing types, development practices, and the availability of funds to assist homebuyers; promote existing housing programs through outreach seminars, and provide homebuyer education." The report also concluded that, "consumers are not aware of choices and what is needed to participate in the housing market. Persons in the workforce who are potentially eligible know little about available housing programs, including first-time homebuyer programs."

## **2. Scope of the Program**

- In-State Extension

## **V(D). Planned Program (Assumptions and Goals)**

### **1. Assumptions made for the Program**

By controlling sources of indoor air quality contamination and ensuring adequate ventilation, consumers can successfully reduce risks. Providing education and information to consumers on water and energy conservation can positively impact their behaviors.

By developing a no cost program that covers various topics surrounding the issues of homeownership, people will attend and the program will be more successful. Additionally, we make the assumption that this program will help raise educational awareness on the programs available in the state to assist with homeownership. As long as the Georgia Department of Community Affairs continues to provide financial support for the Georgia Dream program, and the economy stays consistent, people will still enroll in our homebuyer education classes and the program will be successful.

### **2. Ultimate goal(s) of this Program**

The goal of this planned program is to improve the quality of the home environment through improved air quality and better environmental resource management.

The goals of this program are to increase the homeownership rates among limited resource clientele living in rural Georgia, to provide educational programs that enable families and individuals of all ages to attain a sustainable living environment through affordable, safe and decent housing.

**V(E). Planned Program (Inputs)**

**1. Estimated Number of professional FTE/SYs to be budgeted for this Program**

Year	Extension		Research	
	1862	1890	1862	1890
2012	3.2	1.0	0.0	0.0
2013	3.2	1.0	0.0	0.0
2014	3.2	1.0	0.0	0.0
2015	3.2	1.0	0.0	0.0
2016	3.2	1.0	0.0	0.0

**V(F). Planned Program (Activity)**

**1. Activity for the Program**

Faculty will develop and disseminate information on indoor air quality, water quality, waste management and energy management.

The homebuyer education program will help consumers gain the knowledge they will need to become successful homeowners. This includes ensuring that participants have an understanding of the buying process, mortgages, financial management, and how to prevent foreclosure and default. The program also includes education in maintaining a safe, clean and healthy home environment. All graduates of the classes receive a certificate of completion that is recognized by state agencies as a tool for them to qualify for down payment and mortgage assistance. An additional component of this program is to also disseminate information to our target audience on various resources available to assist our target audience transition from a rental to homeownership relationship, in addition to helping this audience overcome self-imposed barriers that can prevent them from transitioning.

Faculty will also develop training and educational materials for non-federally funded agents to utilize with clients in their communities on home buying. Faculty will develop and disseminate information on indoor air quality, water quality, waste management and energy management. Faculty will promote Extension as a resource for housing education information to housing and community organizations.

**2. Type(s) of methods to be used to reach direct and indirect contacts**

**Extension**

Direct Methods	Indirect Methods
<ul style="list-style-type: none"> <li>● Education Class</li> <li>● Workshop</li> <li>● Group Discussion</li> <li>● One-on-One Intervention</li> </ul>	<ul style="list-style-type: none"> <li>● Public Service Announcement</li> <li>● Newsletters</li> <li>● Web sites other than eXtension</li> </ul>

### 3. Description of targeted audience

The primary audience for the federally funded specialist is the county agent. The county agents take the information into the communities where it is disseminated to the general public.

### V(G). Planned Program (Outputs)

NIFA no longer requires you to report target numbers for standard output measures in the Plan of Work. However, all institutions will report actual numbers for standard output measures in the Annual Report of Accomplishments and Results. The standard outputs for which you must continue to collect data are:

- Number of contacts
  - Direct Adult Contacts
  - Indirect Adult Contacts
  - Direct Youth Contacts
  - Indirect Youth Contact
- Number of patents submitted
- Number of peer reviewed publications

Clicking this box affirms you will continue to collect data on these items and report the data in the Annual Report of Accomplishments and Results.

### V(H). State Defined Outputs

#### 1. Output Measure

- Number of educational contact hours generated from formal educational programs presented to county extension agents by state faculty directly associated with this planned program.
- Number of educational contact hours generated from formal educational programs presented directly to clientele by state faculty directly associated with this planned program.
- Number of significant publications including articles, bulletins and extension publications. (excluding peer reviewed articles)
- Number of invited presentations by faculty directly resulting from the success of this planned program.
- Number of home-buyer education opportunities

Clicking this box affirms you will continue to collect data on these items and report the data in the Annual Report of Accomplishments and Results.

**V(I). State Defined Outcome**

O. No	Outcome Name
1	Number of additional direct extension contacts made by volunteers, staff, or county agents not receiving federal funds as a direct outcome of the work of federally funded faculty associated with this planned program.
2	The percentage of participants who increased their knowledge of Indoor Air Quality issues as a result of the educational programs conducted by county agents.
3	The percentage of participants who tested their homes for indoor air quality contaminants as a result of the educational programs conducted by county agents.
4	The percentage of participants who indicated a change in behavior, such as conserving water, purchasing Energy Star products or testing their well.
5	Total number of consumers transitioning from rental to homeownership after participating in this program.

**Outcome # 1**

**1. Outcome Target**

Number of additional direct extension contacts made by volunteers, staff, or county agents not receiving federal funds as a direct outcome of the work of federally funded faculty associated with this planned program.

**2. Outcome Type : Change in Knowledge Outcome Measure**

**2012:120000      2013:120000      2014:120000      2015:120000      2016:120000**

**3. Associated Knowledge Area(s)**

- 801 - Individual and Family Resource Management
- 804 - Human Environmental Issues Concerning Apparel, Textiles, and Residential and Commercial Structures
- 903 - Communication, Education, and Information Delivery

**4. Associated Institute Type(s)**

- 1862 Extension
- 1890 Extension

**Outcome # 2**

**1. Outcome Target**

The percentage of participants who increased their knowledge of Indoor Air Quality issues as a result of the educational programs conducted by county agents.

**2. Outcome Type : Change in Knowledge Outcome Measure**

**2012:80      2013:80      2014:80      2015:80      2016:80**

**3. Associated Knowledge Area(s)**

- 804 - Human Environmental Issues Concerning Apparel, Textiles, and Residential and Commercial Structures

**4. Associated Institute Type(s)**

- 1862 Extension

**Outcome # 3**

**1. Outcome Target**

The percentage of participants who tested their homes for indoor air quality contaminants as a result of the educational programs conducted by county agents.

**2. Outcome Type : Change in Action Outcome Measure**

**2012:40                      2013:40                      2014:40                      2015:40                      2016:40**

**3. Associated Knowledge Area(s)**

- 804 - Human Environmental Issues Concerning Apparel, Textiles, and Residential and Commercial Structures

**4. Associated Institute Type(s)**

- 1862 Extension

**Outcome # 4**

**1. Outcome Target**

The percentage of participants who indicated a change in behavior, such as conserving water, purchasing Energy Star products or testing their well.

**2. Outcome Type : Change in Action Outcome Measure**

**2012:45                      2013:45                      2014:45                      2015:45                      2016:45**

**3. Associated Knowledge Area(s)**

- 804 - Human Environmental Issues Concerning Apparel, Textiles, and Residential and Commercial Structures

**4. Associated Institute Type(s)**

- 1862 Extension

**Outcome # 5**

**1. Outcome Target**

Total number of consumers transitioning from rental to homeownership after participating in this program.

**2. Outcome Type : Change in Condition Outcome Measure**

**2012:5                      2013:5                      2014:5                      2015:5                      2016:5**

**3. Associated Knowledge Area(s)**

- 801 - Individual and Family Resource Management
- 804 - Human Environmental Issues Concerning Apparel, Textiles, and Residential and Commercial Structures
- 903 - Communication, Education, and Information Delivery

#### **4. Associated Institute Type(s)**

- 1890 Extension

### **V(J). Planned Program (External Factors)**

#### **1. External Factors which may affect Outcomes**

- Natural Disasters (drought, weather extremes, etc.)
- Economy
- Public Policy changes
- Government Regulations
- Competing Public priorities
- Populations changes (immigration, new cultural groupings, etc.)

#### **Description**

Natural disasters can impact the immediate need for information and resources to reach the community. Home energy costs are greatly impacted by rising fuel costs, which has resulted in a tax credit for homeowners who improve the energy efficiency of their home. Increases in the population and density influence water quality, energy use and waste management.

Indoor Air Quality programs may be impacted by a natural disaster, which may increase in a particular IAQ issue. Changes in economic conditions and policies may impact available funding for programs and staff.

Housing education programs may be impacted by economic conditions such as an increase in interest rates or job layoffs. Changes in federal, state and local regulations and housing policies can affect housing development. Population growth changes the demand for housings.

### **V(K). Planned Program - Planned Evaluation Studies**

#### **Description of Planned Evaluation Studies**

For each homebuyer education series a test will be administered beforehand to gauge participant knowledge prior to completing the class, then the same test will be given at the conclusion of the series to measure increase in knowledge.

The level of knowledge of the agents will be assessed by evaluation tools specific to the training content. An evaluation database provides tools to assess changes in knowledge and the intent to change behavior. Most data collection will be obtained at the time of the educational intervention via questionnaire. In some instances a mail survey will be sent out as follow-up. Additionally, yearly IAQ reports detailing program outputs will be compiled.

**V(A). Planned Program (Summary)**

**Program # 8**

**1. Name of the Planned Program**

Technology Education for Seniors

**2. Brief summary about Planned Program**

This program is designed to empower seniors to enhance their lives by learning and applying information technology in their everyday lives. This will be done via a series of low intensity classes offered to senior citizens and retirees residing in Peach, Macon, Taylor, Crawford, Houston, Bibb and other contiguous counties in the middle Georgia area. We will begin with basic computer use and progress through various components of Microsoft Office Suite.

**3. Program existence :** Intermediate (One to five years)

**4. Program duration :** Medium Term (One to five years)

**5. Expending formula funds or state-matching funds :** Yes

**6. Expending other than formula funds or state-matching funds :** Yes

**V(B). Program Knowledge Area(s)**

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
802	Human Development and Family Well-Being	0%	50%	0%	0%
903	Communication, Education, and Information Delivery	0%	50%	0%	0%
	<b>Total</b>	0%	100%	0%	0%

**V(C). Planned Program (Situation and Scope)**

**1. Situation and priorities**

In a series of six "Falling Through the Net" reports, the US Department of Commerce has examined the use of computers, the Internet, and other information technology tools by the American people. The first of these reports was issued in July 1995 and the sixth was published in September 2004. Even though the digital divide has narrowed for many of the demographic groups, one of the consistent findings is that individuals 50 years of age and older are among the least likely computer/Internet users. Moreover, individuals in this age group who are still in the work force are far more likely to be computer/Internet users than those who are not. The 2000 report ("Falling through the Net: Toward Digital Inclusion") states that "Each year, being digitally connected becomes more critical to economic and educational advancement and community participation." On the local level, there continues to be a need and desire for technology training as evidenced by the number of seniors who have participated or desired to participate in the classes the Mobile Information Technology Center has offered during the past two years.



For the "Introduction to Computers" class that we offered in the spring, we had ten-fold more potential participants than we could accommodate. And those who did participate indicated that they had relatives and friends who wanted to participate. In addition, we continue to receive requests from librarians to provide similar training for their seniors. As the life expectancy of Americans continues to increase and as information technologies are transforming the way we live, work and learn, it is imperative that our seniors are not left off the information super highway. We see this as an excellent opportunity for the Mobile Information Technology Center (MITC) to create an onramp to the information superhighway for seniors and retirees in middle Georgia. In addition, we will continue to assess the true need of middle Georgia and indeed the state of Georgia so as to use this information as leverage for additional funding from other agencies. Our first priority will be the counties of Peach, Macon, Taylor and Crawford as the Department of Commerce reports also show that rural areas lag behind central cities and urban areas in computer/Internet use. During the first two years, most of our efforts will be directed toward seeing that every senior in these four counties who wants to learn how to use a computer and the Internet will be provided an opportunity to do so. In the third year attention will be directed toward Bibb and Houston Counties, and more advanced skills in the other four counties.

**2. Scope of the Program**

- In-State Extension

**V(D). Planned Program (Assumptions and Goals)**

**1. Assumptions made for the Program**

- 1) The Mobile Information Technology Center will be equipped/maintained with cutting edge technologies.
- 2) There is a great need for technology training for senior citizens in middle Georgia.
- 3) Seniors/retirees learn best in a none-threatening environment.
- 4) Seniors/retirees learn best in low intensity classes.

**2. Ultimate goal(s) of this Program**

The ultimate goal of this program is to improve the quality of life and economic vitality of the senior citizens and retirees of middle Georgia.

**V(E). Planned Program (Inputs)**

**1. Estimated Number of professional FTE/SYs to be budgeted for this Program**

Year	Extension		Research	
	1862	1890	1862	1890
2012	0.0	0.5	0.0	0.0
2013	0.0	0.5	0.0	0.0
2014	0.0	0.5	0.0	0.0
2015	0.0	0.5	0.0	0.0
2016	0.0	0.5	0.0	0.0

**V(F). Planned Program (Activity)**

**1. Activity for the Program**

Surveys will be conducted in each of the six identified counties to access the true needs for Information Technology training. Curriculum based on the clientele needs will be developed. Low intensity training classes will be offered in each county to include: "Introduction to Computers", "Introduction to the Internet", "Introduction to Email", "Introduction to MS Word", and others as the needs assessment dictate. This hands-on training will be enhanced by follow-up training via email.

**2. Type(s) of methods to be used to reach direct and indirect contacts**

**Extension**

Direct Methods	Indirect Methods
<ul style="list-style-type: none"> <li>● Education Class</li> <li>● One-on-One Intervention</li> <li>● Other 1 (Email)</li> </ul>	<ul style="list-style-type: none"> <li>● Web sites other than eXtension</li> </ul>

**3. Description of targeted audience**

The target audience will consist primarily of senior citizens and retirees. However, in cases where space is available, others will be allowed to enroll in a particular training.

**V(G). Planned Program (Outputs)**

NIFA no longer requires you to report target numbers for standard output measures in the Plan of Work. However, all institutions will report actual numbers for standard output measures in the Annual Report of Accomplishments and Results. The standard outputs for which you must continue to collect data are:

- Number of contacts
    - Direct Adult Contacts
    - Indirect Adult Contacts
    - Direct Youth Contacts
    - Indirect Youth Contact
  - Number of patents submitted
  - Number of peer reviewed publications
- Clicking this box affirms you will continue to collect data on these items and report the data in the Annual Report of Accomplishments and Results.

## **V(H). State Defined Outputs**

### **1. Output Measure**

- Number of educational contact hours generated from formal educational programs presented directly to clientele by state faculty directly associated with this planned program.
  - Number of significant publications including articles, bulletins and extension publications. (excluding peer reviewed articles)
  - Number of educational contact hours generated from formal educational programs presented to county extension agents by state faculty directly associated with this planned program.
  - Number of invited presentations by faculty directly resulting from the success of this planned program.
- Clicking this box affirms you will continue to collect data on these items and report the data in the Annual Report of Accomplishments and Results.

**V(I). State Defined Outcome**

<b>O. No</b>	<b>Outcome Name</b>
1	Number of program participants who will be able to send and receive email at the completion of training
2	participants will be able to intelligently search the internet for useful consumer information.
3	Number of additional direct extension contacts made by volunteers, staff, or county agents not receiving federal funds as a direct outcome of the work of federally funded faculty associated with this plan.

**Outcome # 1**

**1. Outcome Target**

Number of program participants who will be able to send and receive email at the completion of training

**2. Outcome Type : Change in Knowledge Outcome Measure**

**2012:800                      2013:800                      2014:800                      2015:800                      2016:800**

**3. Associated Knowledge Area(s)**

- 802 - Human Development and Family Well-Being
- 903 - Communication, Education, and Information Delivery

**4. Associated Institute Type(s)**

- 1890 Extension

**Outcome # 2**

**1. Outcome Target**

participants will be able to intelligently search the internet for useful consumer information.

**2. Outcome Type : Change in Knowledge Outcome Measure**

**2012:600                      2013:600                      2014:600                      2015:600                      2016:600**

**3. Associated Knowledge Area(s)**

- 802 - Human Development and Family Well-Being
- 903 - Communication, Education, and Information Delivery

**4. Associated Institute Type(s)**

- 1890 Extension

**Outcome # 3**

**1. Outcome Target**

Number of additional direct extension contacts made by volunteers, staff, or county agents not receiving federal funds as a direct outcome of the work of federally funded faculty associated with this plan.

**2. Outcome Type : Change in Knowledge Outcome Measure**

**2012:20                      2013:20                      2014:20                      2015:20                      2016:20**

**3. Associated Knowledge Area(s)**

- 802 - Human Development and Family Well-Being
- 903 - Communication, Education, and Information Delivery

**4. Associated Institute Type(s)**

- 1890 Extension

**V(J). Planned Program (External Factors)**

**1. External Factors which may affect Outcomes**

- Appropriations changes
- Competing Programmatic Challenges
- Populations changes (immigration, new cultural groupings, etc.)

**Description**

With the exception of Bibb and Houston, the targeted counties are small rural counties; hence, if there are significant decreases in population or if other entities offer similar training, the number of clients served may decrease. Moreover, the proposed program is very resource intensive and maintaining the appropriate resources may be a challenge.

**V(K). Planned Program - Planned Evaluation Studies**

**Description of Planned Evaluation Studies**

Evaluation of this program will be more informal than formal. There will be pre- and post- surveys to ascertain how many participants own computers, how they use their computers, if they are connected to the Internet, and what they do online. Several projects will be completed during the trainings, and participants will be evaluated on the extent to which they are able to complete each project. At the close of each training participants will be asked to provide written feedback relative to the training, and there will be follow-up emails and/or telephone surveys to measure the extent to which they are using the skills developed in the trainings. Surveys will be administered on-site to all program participants to ascertain their and their friends' use of information technologies. After each training, telephone and/or email surveys will be conducted with participants and others they identify who can verify that they are applying what was learned.

## **V(A). Planned Program (Summary)**

### **Program # 9**

#### **1. Name of the Planned Program**

Urban Agriculture

#### **2. Brief summary about Planned Program**

This planned program will provide research and education in areas that directly benefit urban agriculture. The work in this area is concentrated in four areas. The program will strive to produce better plant materials, improve turf and greenhouse management, develop and disseminate new management tools for the landscape professional and target consumers of urban agriculture to improve practices and protect the environment.

The program will identify plants better adapted to urban environments, with traits such as pest resistance, heat and drought tolerances, and compact form, all of which are greatly desired by nurseries, landscape contractors, and homeowners. There are approximately 1.8 million acres of turf in Georgia. Disease losses and control costs account for over \$250 million annually. Turfgrass fungicides are cost-prohibiting, their over-use can be detrimental to the environment and fungicide resistance is becoming an important issue in Georgia. This program will develop integrated strategies for disease management, as well as educate turfgrass producers, turfgrass professionals, landscape companies' personnel, county faculty, and the general public on disease etiology, epidemiology, and sound and effective disease management strategies on turfgrass.

The program will develop tools for the landscape professional. It will develop landscape survey and inventory software compatible with commercially available hand-held PDA's and GPS/PDA units to use for site inventory and mapping. Cost estimating and job bidding are among the most perplexing and time-consuming tasks of professional landscapers, yet they are critical to business success.

This planned program will continue to work with both adult and youth audiences statewide to train volunteers and county agents in serving the environmental horticulture needs of the public. The Master Gardener program is an integral part of this planned program. Faculty members will develop resources and training programs as well as the use of mass media to distribute information.

Finally, an Urban Agriculture Center will be utilized to provide organization structure designed to facilitate scientific cross-fertilization among investigators, agents, industry and homeowners. It will facilitate issue identification and offer continuing education programs that are relevant to the urban environment.

**3. Program existence :** Mature (More than five years)

**4. Program duration :** Long-Term (More than five years)

**5. Expending formula funds or state-matching funds :** Yes

**6. Expending other than formula funds or state-matching funds :** Yes

**V(B). Program Knowledge Area(s)**

## 1. Program Knowledge Areas and Percentage

<b>KA Code</b>	<b>Knowledge Area</b>	<b>%1862 Extension</b>	<b>%1890 Extension</b>	<b>%1862 Research</b>	<b>%1890 Research</b>
102	Soil, Plant, Water, Nutrient Relationships	3%	0%	10%	0%
111	Conservation and Efficient Use of Water	17%	0%	15%	0%
124	Urban Forestry	2%	0%	10%	0%
202	Plant Genetic Resources	17%	0%	2%	0%
206	Basic Plant Biology	2%	0%	2%	0%
211	Insects, Mites, and Other Arthropods Affecting Plants	0%	0%	10%	0%
212	Pathogens and Nematodes Affecting Plants	8%	0%	10%	0%
213	Weeds Affecting Plants	3%	0%	10%	0%
216	Integrated Pest Management Systems	8%	0%	2%	0%
404	Instrumentation and Control Systems	3%	0%	2%	0%
405	Drainage and Irrigation Systems and Facilities	3%	0%	2%	0%
601	Economics of Agricultural Production and Farm Management	5%	0%	10%	0%
602	Business Management, Finance, and Taxation	10%	0%	5%	0%
605	Natural Resource and Environmental Economics	13%	0%	2%	0%
609	Economic Theory and Methods	3%	0%	2%	0%
806	Youth Development	3%	0%	6%	0%
	<b>Total</b>	100%	0%	100%	0%

**V(C). Planned Program (Situation and Scope)****1. Situation and priorities**

The population of Georgia has grown 26.4% from 1990 to 2000 (US Census), making it one of the fastest-growing states in the country. In order to remain vital and relevant to the state, the College of Agricultural and Environmental Sciences (CAES) must focus resources and talents on the issues involved in urbanization and needs of Georgia's increasing urban and suburban populations. The goal of the Center for Urban Agriculture is to assist in this process.

Due to the increase of population, use and popularity of turf species, as well as their high aesthetic value, disease losses and control costs are enormous. Additionally, golf course superintendents, sod producers and commercial landscape managers use fungicides as the main disease control strategy. Furthermore, a considerable number of homeowners rely on pesticides to control turfgrass diseases.



Turfgrass fungicides are cost-prohibiting and their over-use can be detrimental to the environment.

Many commercial landscape firms fail within the first five years because they fail to re-coup all their costs while gaining a reasonable profit. There is a great need for education on best management practices and additional management tools to support this industry.

The latest surveys of the Environmental Horticulture segments report annual revenue of \$8.1 million in 2004 from approximately 7,000 firms with almost 80,000 employees. Many of these industries are relatively volatile, with short life spans. Employees may also be transitory, increasing the need for continuing education. Hispanic workers form the backbone of Urban Ag industries supplying 75% of the workforce.

## **2. Scope of the Program**

- In-State Extension
- In-State Research
- Multistate Extension

## **V(D). Planned Program (Assumptions and Goals)**

### **1. Assumptions made for the Program**

Urbanization obviously impacts traditional agriculture industries. In addition to the loss of traditional farm land, urbanization can result in conflicts between traditional Ag producers and their relatively new, non-rural neighbors. Homeowners may object to pesticide application, smells, and dust associated with agriculture while enjoying the rural atmosphere created by farming. Farmers may object to suggestions on land use, and both appreciate and resent increasing land prices associated with urbanization. Urbanization impacts the physical environment in unique and complex ways.

This program will be achievable because there is an infrastructure and human resources that will support the proposed objectives. Disease losses are a major economical burden and industry professionals are motivated to implement new and improved measures of control. Internal and external funds and agents serve as catalysts to achieve the proposed plan.

### **2. Ultimate goal(s) of this Program**

The goal of this planned program is to produce better plant materials, improve turf and greenhouse management and develop and disseminate new management tools for the landscape professional.

Specifically, this program will develop enhanced turfgrass disease management strategies that prevent economic losses, increase efficiency in production and management and promotes a more judicious and timely application of fungicides. It will develop improved plants that will be well-adapted to growth in urban environment landscapes.

The program will educate the consumer on best management practices and thus improve the satisfaction and success of the consumer. Consumer level education can greatly impact the urban agriculture industry, the environment, and the quality of life in urban areas.

The College of Agricultural and Environmental Sciences must focus resources and talents on the issues involved in urbanization and needs of Georgia's increasing urban and suburban populations. The goal of the Center for Urban Agriculture is to assist in this process.

**V(E). Planned Program (Inputs)**

**1. Estimated Number of professional FTE/SYs to be budgeted for this Program**

Year	Extension		Research	
	1862	1890	1862	1890
2012	0.7	0.0	0.1	0.0
2013	0.7	0.0	0.1	0.0
2014	0.7	0.0	0.1	0.0
2015	0.7	0.0	0.1	0.0
2016	0.7	0.0	0.1	0.0

**V(F). Planned Program (Activity)**

**1. Activity for the Program**

Faculty will conduct statewide and local trainings, programs on turf diseases identification and management. Publication of electronic and printed materials on turf diseases identification and management will be published. Implementation of research trials to measure efficacy and proper timing of fungicides to control in different diseases will be conducted.

Development of partnerships and research collaborations with commercial companies and educational institutions will be established to support the work of this program. Faculty will develop new cost estimating and job bidding software for landscape installation. New software to use with GPS devices will be developed to support inventory systems.

Faculty will support the Master Gardener program by training county extension agents to conduct local programs. Faculty members will work with local county extension agents to support consumer educational efforts related to urban agriculture.

**2. Type(s) of methods to be used to reach direct and indirect contacts**

**Extension**

Direct Methods	Indirect Methods
<ul style="list-style-type: none"> <li>● Education Class</li> <li>● Workshop</li> <li>● Group Discussion</li> <li>● Demonstrations</li> </ul>	<ul style="list-style-type: none"> <li>● Public Service Announcement</li> <li>● Newsletters</li> <li>● TV Media Programs</li> <li>● Web sites other than eXtension</li> </ul>

**3. Description of targeted audience**

The target audience for this planned program includes urban agriculture industries professionals, public policy makers and regulators, county Extension faculty, homeowners.

## **V(G). Planned Program (Outputs)**

NIFA no longer requires you to report target numbers for standard output measures in the Plan of Work. However, all institutions will report actual numbers for standard output measures in the Annual Report of Accomplishments and Results. The standard outputs for which you must continue to collect data are:

- Number of contacts
  - Direct Adult Contacts
  - Indirect Adult Contacts
  - Direct Youth Contacts
  - Indirect Youth Contact
- Number of patents submitted
- Number of peer reviewed publications

Clicking this box affirms you will continue to collect data on these items and report the data in the Annual Report of Accomplishments and Results.

## **V(H). State Defined Outputs**

### **1. Output Measure**

- Number of educational contact hours generated from formal educational programs presented to county extension agents by state faculty directly associated with this planned program.
- Number of educational contact hours generated from formal educational programs presented directly to clientele by state faculty directly associated with this planned program.
- Number of significant publications including articles, bulletins and extension publications. (excluding peer reviewed articles)
- Number of invited presentations by faculty directly resulting from the success of this planned program.
- Number of research trials conducted
- Number of disease management recommendations based on disease samples processed

Clicking this box affirms you will continue to collect data on these items and report the data in the Annual Report of Accomplishments and Results.

**V(I). State Defined Outcome**

O. No	Outcome Name
1	Number of additional direct extension contacts made by county faculty not receiving federal funds, staff or volunteers as a direct result of the work of faculty receiving federal funds within this planned program.
2	Pre and post tests, email follow-up evaluation

**Outcome # 1**

**1. Outcome Target**

Number of additional direct extension contacts made by county faculty not receiving federal funds, staff or volunteers as a direct result of the work of faculty receiving federal funds within this planned program.

**2. Outcome Type : Change in Knowledge Outcome Measure**

**2012:250000      2013:250000      2014:250000      2015:250000      2016:250000**

**3. Associated Knowledge Area(s)**

- 102 - Soil, Plant, Water, Nutrient Relationships
- 111 - Conservation and Efficient Use of Water
- 124 - Urban Forestry
- 202 - Plant Genetic Resources
- 206 - Basic Plant Biology
- 211 - Insects, Mites, and Other Arthropods Affecting Plants
- 212 - Pathogens and Nematodes Affecting Plants
- 213 - Weeds Affecting Plants
- 216 - Integrated Pest Management Systems
- 404 - Instrumentation and Control Systems
- 405 - Drainage and Irrigation Systems and Facilities
- 601 - Economics of Agricultural Production and Farm Management
- 602 - Business Management, Finance, and Taxation
- 605 - Natural Resource and Environmental Economics
- 609 - Economic Theory and Methods
- 806 - Youth Development

**4. Associated Institute Type(s)**

- 1862 Extension
- 1862 Research

**Outcome # 2**

**1. Outcome Target**

Pre and post tests, email follow-up evaluation

**2. Outcome Type : Change in Knowledge Outcome Measure**

**2012:10                      2013:10                      2014:10                      2015:10                      2016:10**

**3. Associated Knowledge Area(s)**

- 102 - Soil, Plant, Water, Nutrient Relationships
- 124 - Urban Forestry
- 206 - Basic Plant Biology
- 213 - Weeds Affecting Plants
- 605 - Natural Resource and Environmental Economics
- 806 - Youth Development

**4. Associated Institute Type(s)**

- 1862 Extension

**V(J). Planned Program (External Factors)**

**1. External Factors which may affect Outcomes**

- Natural Disasters (drought, weather extremes, etc.)
- Economy
- Appropriations changes
- Public Policy changes
- Government Regulations
- Competing Public priorities
- Competing Programmatic Challenges
- Populations changes (immigration, new cultural groupings, etc.)

**Description**

Government regulations on certain fungicides can hamper the applicability of those in disease control. Government regulations and public policy may speed up the adoption of conservation measures by ordinance or state law. This may increase or may decrease the actual number of programs/activities per year depending on the actions taken by the policy groups.

Population increases will greatly affect urban programming. An economic change can affect the consumer value of ornamental horticulture and therefore impact this program.

**V(K). Planned Program - Planned Evaluation Studies**

**Description of Planned Evaluation Studies**

Evaluation of this program will be more informal than formal. There will be pre- and post- surveys to ascertain how many participants own computers, how they use their computers, if they are connected to the Internet, and what they do online. Several projects will be completed during the trainings, and

participants will be evaluated on the extent to which they are able to complete each project. At the close of each training participants will be asked to provide written feedback relative to the training, and there will be follow-up emails and/or telephone surveys to measure the extent to which they are using the skills developed in the trainings. Surveys will be administered on-site to all program participants to ascertain their and their friends' use of information technologies. After each training, telephone and/or email surveys will be conducted with participants and others they identify who can verify that they are applying what was learned.

## **V(A). Planned Program (Summary)**

### **Program # 10**

#### **1. Name of the Planned Program**

Youth Life Skill Development

#### **2. Brief summary about Planned Program**

The mission of Georgia 4-H is to assist youth in acquiring knowledge, developing life skills, and forming attitudes that will enable them to become self-directing, productive and contributing members of society. The 4-H program uses many activities as a platform to develop life skills necessary for success in life.

This plan specifically targets learning objectives for life skill development across all 4-H program plans. Through club programs and educational activities, this planned program will establish learning objectives and educational curricula to support the development of life skills. More importantly, this program will seek out opportunities for young people to practice new life skills in a positive environment. A major area of concentration will include the development of leadership skills.

The UGA 4-H camping program is a program where all components of life skill development come together in one learning environment. Campers learn and practice skills for five days. The Animal Science Departments at UGA and FVSU collaborate with youth development faculty to offer livestock projects that are designed to teach life skills while the students are also gaining knowledge.

The 4-H and Youth Programs at FVSU are specifically designed to meet the needs and challenge the strengths of youths living in Georgia. These program components focus on initiating success by empowering the minds of our youth to a higher level of thinking through leadership, entrepreneurship and science-based educational projects, activities, and programming for youth. This program will help all participants make the best decisions at all times for themselves in all situations that they may encounter.

The Georgia 4-H program, in conjunction with the Georgia Rural Development, will conduct a youth summit with youth-adult partners from counties throughout Georgia. The summit focuses on youth and adult's civic engagement. Additionally, a new recognition component, Leadership in Action, will recognize 4-H'ers for completion of youth led projects impacting their communities. National 4-H Conference will involve youth in studying community issues and designing plans for youth involvement. 4-H Ambassadors are trained in issue areas to impact their communities and our Operation Military Kids team is charged with effecting change for the sudden military audience located in communities throughout our state.

Many traditional 4-H activities are being redesigned to further enhance the objectives of this planned program.

**3. Program existence :** Mature (More than five years)

**4. Program duration :** Long-Term (More than five years)

**5. Expending formula funds or state-matching funds :** Yes

**6. Expending other than formula funds or state-matching funds :** Yes



**V(B). Program Knowledge Area(s)**

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
134	Outdoor Recreation	5%	0%	0%	0%
135	Aquatic and Terrestrial Wildlife	8%	0%	0%	0%
136	Conservation of Biological Diversity	1%	0%	0%	0%
206	Basic Plant Biology	1%	0%	0%	0%
214	Vertebrates, Mollusks, and Other Pests Affecting Plants	4%	0%	0%	0%
307	Animal Management Systems	8%	0%	0%	0%
315	Animal Welfare/Well-Being and Protection	16%	0%	0%	0%
608	Community Resource Planning and Development	4%	20%	0%	0%
802	Human Development and Family Well-Being	4%	0%	0%	0%
806	Youth Development	49%	80%	0%	0%
	<b>Total</b>	100%	100%	0%	0%

**V(C). Planned Program (Situation and Scope)**

1. Situation and priorities

The number of our nation's youth exhibiting at-risk behavior points to a lack of skills necessary for adulthood—skills in working with others, understanding self, communicating, making decisions, and leadership. These skills are required by adults for everyday living and are often called leadership life skills. The development of life skills allows youth to cope with their environment by making responsible decisions, having a better understanding of their values, and being better able to communicate and get along with others.

The lack of Youth Development programs and persistent poverty can become the Pipeline to Prison. While opportunities for getting into trouble abound for all children, growing up in poverty contributes to a greater likelihood of involvement in crime and violence. Studies show that children living in extreme, persistent poverty are more likely to engage in delinquency, especially serious delinquency (Children Defense Fund, January, 2006). Several studies have shown that poor choices made by youths and adults lead to inappropriate actions, which result in negative consequences. Unemployment, poverty, child abuse, drug abuse, unsuccessful parenting, and lack of positive leadership in the home are some of the factors that prohibit youth from developing good decision-making skills. These alarming statistics indicate the need and importance of creating family focused programs to address the problems of at-risk youth living in Georgia and throughout America.

Throughout our communities there are countless examples of decision-making bodies that do not engage the input from their stakeholders. Youth audiences are often left victim to the under-representation. As we look around our communities, adults are at the forefront of discussions focusing on issues in which young people are affected. Decisions are often made without consulting youth in regards to what opinions

and thoughts they may have on a particular issue. Too often youth are given a seat on decision making bodies without having a value to the group and therefore skills are not developed. Youth and adults both need opportunities for training and practice in youth serving leadership roles for civic changes.

**2. Scope of the Program**

- In-State Extension

**V(D). Planned Program (Assumptions and Goals)**

**1. Assumptions made for the Program**

Youth development is a process of mental, physical, social and emotional growth during which young people prepare to live a productive and satisfying life within the customs and regulations of their society. People who develop programs and curricula for youth are in the business of providing educational opportunities through which youth can learn information and develop skills they need.

Youth development experiences of high quality don't just happen. The best ones are carefully planned (a) to encourage life skill development while delivering subject matter content and (b) to achieve specific results. It has become increasingly important to be accountable for resources expended by documenting program impact. By clearly stating desired changes as program objectives, youth development experiences can be evaluated more effectively to determine if the program succeeded in making the intended difference in the lives of youth.

Youth serving as positive contributors and within meaningful roles are among the least common experiences for young people. Adults perceive youth as in need of assistance rather than being community assets. The stereotyping of youth and adults by each other can limit potential.

**2. Ultimate goal(s) of this Program**

The goal of this program is to provide developmentally appropriate opportunities for young people to experience life skills, to practice them until they are learned, and be able to use them as necessary throughout a lifetime. Youth working with adults as partners and serving as leaders will enact positive changes while developing important skills.

**V(E). Planned Program (Inputs)**

**1. Estimated Number of professional FTE/SYs to be budgeted for this Program**

Year	Extension		Research	
	1862	1890	1862	1890
2012	4.4	1.0	0.0	0.0
2013	4.4	1.0	0.0	0.0
2014	4.4	1.0	0.0	0.0
2015	4.4	1.0	0.0	0.0
2016	4.4	1.0	0.0	0.0

**V(F). Planned Program (Activity)**

**1. Activity for the Program**

4-H faculty members will develop curriculum, train and support county extension agents to conduct monthly educational programs for in-school club meetings around the state.

4-H faculty members will develop and support educational opportunities including individual learning projects, animal projects, entrepreneurship clubs, science clubs, environmental clubs and product evaluation/judging activities.

The 4-H Youth program will develop curriculum and train staff to conduct a summer camping program that allows young people to learn and practice life skills. Five residential camps are supported through the work of this program.

The 4-H Youth program will conduct a Georgia Youth Summit with youth and adult teams preparing information on local issues, receiving training on enacting change and working together and returning to home communities to enact the change. State federally funded faculty will provide in-service training and web based information for county faculty, staff, and volunteers for working with youth in civic engagement. They will train 4-H issue ambassadors to work on community change during ambassador training and prepare complimentary information for ambassadors to use as reference. State faculty will train youth and adults to work with communities on meeting the needs of suddenly military youth and families under the direction of the Operation Military Kids Team. Faculty members will produce and provide web based training and information for directing and assisting youth in individualized community engagement with recognition within the Leadership in Action program.

A large part of this program will fund specialists and their direct efforts primarily to county agents. These agents will then disseminate this information to youth in their county.

**2. Type(s) of methods to be used to reach direct and indirect contacts**

<b>Extension</b>	
<b>Direct Methods</b>	<b>Indirect Methods</b>
<ul style="list-style-type: none"> <li>● Education Class</li> <li>● Workshop</li> <li>● Group Discussion</li> <li>● One-on-One Intervention</li> </ul>	<ul style="list-style-type: none"> <li>● Web sites other than eXtension</li> <li>● Other 1 (Exhibits)</li> </ul>

**3. Description of targeted audience**

The target audience for this planned program includes two groups. County agents and volunteers will be targeted to multiply the efforts of faculty associated with this program. In many cases, faculty will have direct contact with the youth.

All Georgia youth from Kindergarten through college are targeted for life skill development programs. The in-school club program will target 5<sup>th</sup> through 8<sup>th</sup> grades. Different activities within the program will target different ages.

Many programs identify more specific audiences. An example of these would be programs that target youth of military families or programs that target audiences at risk. Some programs target low-income and limited resource families.

## **V(G). Planned Program (Outputs)**

NIFA no longer requires you to report target numbers for standard output measures in the Plan of Work. However, all institutions will report actual numbers for standard output measures in the Annual Report of Accomplishments and Results. The standard outputs for which you must continue to collect data are:

- Number of contacts
  - Direct Adult Contacts
  - Indirect Adult Contacts
  - Direct Youth Contacts
  - Indirect Youth Contact
- Number of patents submitted
- Number of peer reviewed publications

Clicking this box affirms you will continue to collect data on these items and report the data in the Annual Report of Accomplishments and Results.

## **V(H). State Defined Outputs**

### **1. Output Measure**

- Number of educational contact hours generated from formal educational programs presented to county extension agents by state faculty directly associated with this planned program.
- Number of educational contact hours generated from formal educational programs presented directly to clientele by state faculty directly associated with this planned program.
- Number of significant publications including articles, bulletins and extension publications. (excluding peer reviewed articles)
- Number of invited presentations by faculty directly resulting from the success of this planned program.
- Number of Leadership, Entrepreneurship, and Science Meeting sessions coordinated

Clicking this box affirms you will continue to collect data on these items and report the data in the Annual Report of Accomplishments and Results.

**V(I). State Defined Outcome**

O. No	Outcome Name
1	Number of additional direct extension contacts made by volunteers, staff, or county agents not receiving federal funds as a direct outcome of the work of federally funded faculty associated with this planned program.
2	Total number of youth participants that will enhance decision making skills and develop positive leadership skills, increase their knowledge of entrepreneurship education, and increase their knowledge of science education.

**Outcome # 1**

**1. Outcome Target**

Number of additional direct extension contacts made by volunteers, staff, or county agents not receiving federal funds as a direct outcome of the work of federally funded faculty associated with this planned program.

**2. Outcome Type : Change in Knowledge Outcome Measure**

**2012:150000      2013:150000      2014:150000      2015:150000      2016:150000**

**3. Associated Knowledge Area(s)**

- 134 - Outdoor Recreation
- 135 - Aquatic and Terrestrial Wildlife
- 136 - Conservation of Biological Diversity
- 206 - Basic Plant Biology
- 214 - Vertebrates, Mollusks, and Other Pests Affecting Plants
- 307 - Animal Management Systems
- 315 - Animal Welfare/Well-Being and Protection
- 608 - Community Resource Planning and Development
- 802 - Human Development and Family Well-Being
- 806 - Youth Development

**4. Associated Institute Type(s)**

- 1862 Extension
- 1890 Extension

**Outcome # 2**

**1. Outcome Target**

Total number of youth participants that will enhance decision making skills and develop positive leadership skills, increase their knowledge of entrepreneurship education, and increase their knowledge of science education.

**2. Outcome Type : Change in Knowledge Outcome Measure**

**2012:400      2013:450      2014:500      2015:550      2016:600**

**3. Associated Knowledge Area(s)**

- 608 - Community Resource Planning and Development
- 806 - Youth Development

#### 4. Associated Institute Type(s)

- 1862 Extension
- 1890 Extension

### V(J). Planned Program (External Factors)

#### 1. External Factors which may affect Outcomes

- Natural Disasters (drought, weather extremes, etc.)
- Economy
- Appropriations changes
- Public Policy changes
- Government Regulations
- Competing Public priorities
- Populations changes (immigration, new cultural groupings, etc.)

#### Description

{NO DATA ENTERED}

### V(K). Planned Program - Planned Evaluation Studies

#### Description of Planned Evaluation Studies

A record of numbers of youth involved in projects will be maintained. Total numbers of youth livestock projects begun and completed will be collected. On-site evaluations of some educational programs will be completed by participants.

Participants in the programs will respond post program to knowledge gained and a sampling of the program participants will respond following the program. This will vary with each of the programs/activities offered. All programs will not use time series evaluation. Methods checked will not be used for all programs/activities. County faculty and volunteers working with the youth involved in program as well as the youth will be involved in preparing observations from the programs. A sampling of participants will also evaluate knowledge gained and impact on self. The leadership in action participants will include an evaluation component in their submission summary considering the effects of the activity on their leadership growth. Additionally, a selection of high school age youth in the Leadership in Action program will be interviewed as a portion of the program.