2009 Fort Valley State University and University of Georgia Combined Research and Extension Annual Report of Accomplishments and Results

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I. Report Overview

1. Executive Summary

1. Executive Summary

This executive summary will provide background information regarding the state of Georgia and the development of Georgia Report of Accomplishments. This summary will provide background data for the state and universities, program highlights, examples of specific collaborative efforts between UGA and FVSU and brief summaries for each of the nineteen planned programs.

BACKGROUND
Fort Valley State University and The University of Georgia address major agricultural issues as well as many other problems facing rural and urban areas, the environment, families and youth. This Accomplishment Report represents the 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 2007 population was 9,685,744. The 2008 population listed in the 2010 Georgia County Guide reported 29.07% 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% were of African American descent, 8% were of Hispanic descent. From 2000 to 2008 there has been a substantial increase in the Hispanic/Latino descent from 5.3% in 2000 to 8% in 2008.

The Georgia Extension Service has 167 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 Accomplishment Report 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.

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.

HIGHLIGHTS
Georgia is involved in many significant programs that positively impact the citizens of the state, the economy, the business arena and the environment. Just a few examples of both small and large programming will be highlighted here.

Managing Water, Energy, Waste and Air Quality in Agriculture:
Nutrient over-enrichment in North Georgia watersheds threatens water quality and the use of water resources for

drinking water, fishing, and recreation. Animal operations are one of several contributors of phosphorus loadings in this region. The Natural Resources Conservation Service and the Georgia Soil and Water Conservation Commission are interested in the use of litter transfer incentives to facilitate the movement of animal waste nutrients out of nutrient -stressed watersheds in North Georgia to watersheds elsewhere in Georgia with nutrient-deficient soils. Biological and agricultural engineers and scientists from the Georgia Water Planning and Policy Center created a project to evaluate and make recommendations concerning the use of litter transfer incentives in Georgia. Soil test data and poultry production data were analyzed to determine the amounts of surplus nitrogen and phosphorus by county across the state. Litter transport programs in other states were evaluated to determine the approaches that might be successful in Georgia. The project also evaluated alternative technologies available for the use of poultry litter such as energy production, and value added processing. Engineers found that the future efforts to facilitate litter transfer out of nutrient surplus watersheds should be focused in areas that have proven to be successful previously and prevent time and resources from being wasted. The model developed through this project will be valuable in determining the effect of different market and logistic scenarios on litter transfer in Georgia. Land Application impact statement Natural endocrine disrupting hormones and degradation products are inherent in poultry manures. Research by a biological and agricultural engineer will examine the occurrence, magnitude and fate of these chemicals in surface waters and sediments at a watershed scale level to fully assess the environmental impact. The watershed contains a dense population of poultry farmers, with land application being a common practice of disposing of poultry manure. Once land applied, the endocrine disrupting compounds can be transported to downstream water resources, drinking and recreational waters, and pose a serious threat to public health. The results of these experiments will improve understanding of the sources and fluxes of endocrine disrupting chemicals in watersheds with commercial -level animal agriculture, and establish a basis for continued protection of the nation's water resources.

Urban Agriculture:

Urban Agriculture programming reported over 5,000 direct contacts and over 33,000 indirect contacts due to the direct result of faculty receiving federal funds. These federal funded positions, in turn, provided further impact to the community through faculty, staff and volunteers not receiving federal funds. This county level programming resulted in over 350,000 additional direct extension contacts in the area of ANR programming for urban audiences. There were 2,427 training sessions provided. Georgia has 70 counties that are considered metropolitan according to the UGA CAES Center for Urban Agriculture.

Some examples of urban Ag programming are: the Master Gardener program, research in breeding landscape plants, water conservation in greenhouses, GPS technology for Landscape professionals and economic development issues. The Master Gardener Program granted 644 new certifications. Volunteers logged 217,010 volunteer hours at a dollar value of $4.2 million (2009) to the state of Georgia, consistently lead the state as producers/donors of vegetables to the "Plant a Row for the Hungry" project, and consistently contribute invaluable community service through such educational and conservation efforts as garden demonstrations, lunch and learn lectures, plant doctor clinics, youth projects with 4-H and Junior MGs, and specialty projects with senior centers and nature preserves.

Housing and the Near Environment:

Faculty associated with federal funds reported over 650 direct contacts and almost 300 indirect contacts. These federal funded positions, in turn, provided further impact to the community through faculty, staff and volunteers not receiving federal funds. This county level programming resulted in 91,206 additional direct extension contacts in the area of housing programming for the residents of Georgia.

A series of homebuyer education workshops were offered throughout the year. The program is intended to raise awareness of assistance that is available for homeownership needs. In addition to these periodic workshops a statewide housing conference is held once a year. The intended audience for the statewide housing conference is other housing professionals in the field. These professionals learn about current rural housing needs, financial resources, and technical resources available for them to use with their clientele. State faculty also created training materials for county agents to use in their communities. A few example topics for training materials are: home buying, home maintenance, indoor air quality, managing water and utility education. The downward turn in the economy has created an increased demand for this type of programming as clients are concerned about predatory lenders, loan defaults, saving money, and maintaining a healthy home.

EXAMPLES OF COLLABORATIVE EFFORTS

AQUACULTURE: Each year FVSU hosts four to six aquaculture workshops at FVSU at the GCAD with the participation of University of Georgia. University of Georgia faculty provide presentations pertinent to workshop topics . Each workshop is followed by a tour of the aquaculture greenhouse facilities . FVSU also collaborates with the University of Georgia and Auburn University at the Tri-State Aquaculture booth at the SunBelt Agricultural Expo in Moultrie each year. This event represents contact with over 6,000 participants who either taste catfish and or gain information about aquaculture.

MEAT AND DAIRY GOAT PRODUCTION AND PROCESSING: FVSU and UGA worked together to launch a state youth market goat show and record book program. FVSU brought to the table years of experience in leading such programs. Participation for the youth show continues to increase at the rate of about 25% per year &hellipmaking this the fastest growing youth livestock program in Georgia.

On-going collaboration between UGA Extension county agents and FVSU small ruminant specialists. County meetings, in&ndashservice and district agent training, and contacts via phone and e-mail on technical issues and problem-solving are all examples of collaborative efforts where faculty work together to meet the needs of the state clientele.

ANIMAL PRODUCTION AND PROTECTION: Several UGA faculty serve on FVSU animal and food science Master's program graduate committees and participate in research implementation and final review. Collaboration has contributed to the success in classroom as guest lecturer opportunities are provided.

GENERAL PROGRAMMING: Bringing the resources of both universities to the table during joint participation in monthly ANR Extension Coordination meetings, planning, and information exchange provides opportunities to build a strong program for Georgia clientele.

PLANNED PROGRAM SUMMARIES

There are nineteen planned programs for FVSU and UGA. Below is a brief summary of each planned program.

1) Agriculture and Food Defense Program / Agrosecurity &ndash Programming efforts support the State Strategic Plan for Terrorism and All-Hazards Preparedness through participation in the Georgia Committee on Agriculture and Food Defense. This program leads the County Agriculture Response Teams (CART), develops, and delivers agro- and bio-security education to citizens through the county extension office.

2) Animal Production and Protection - This program area explores different areas of animal production and protection, focusing on the production of sheep, goats, dairy and beef cattle and swine. Specific topics for this program include, but are not limited to: Georgia Beef Challenge, Master Cattleman's Program, profitability of dairy farming, swine intake regulation, pest control and evaluation of new forages and feeds.

3) Aquaculture - This program area supports the research and promotion of different aspects of aquaculture, including catfish and freshwater prawn production, disease diagnosis services, water quality and aquatic weed identification and re&ndashcirculating aquaculture systems.

4) Biorefinery and Carbon Cycling Program &ndash Programming supports research projects that improve existing technology and identify new emerging technologies in the following areas: hydrogen production from peanut hulls and pine chips biomass, use of char in agriculture and BioOil and biodiesel development.

5) Chronic Disease Prevention / Healthy Lifestyles &ndash Programming in this area brings awareness to and researches the issues of chronic disease prevention and healthy lifestyles by disseminating fact sheets on weight control, physical activity, diabetes management and prevention, cardiovascular diseases prevention and cancer prevention to the public. A large focus of this program will be on the state's youth, with statewide classes and meetings being held which will focus on healthy lifestyles.

6) Consumer Economics and Financial Literacy - In this program, UGA specialists 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. FVSU faculty will also develop a long range plan for early intervention in financial literacy and consumer education in targeted areas throughout Georgia.

7) Food Processing, Protection & Safety - Projects include analyzing consumer demand for food, workshops and short courses for food industry, research studies in food processing, development of models and publishing of journal papers and other media.

8) Housing and the Near Environment - In this program, faculty develop and disseminate information on indoor air quality, water quality, waste management and energy management. This program also includes a homebuyer education program, which teaches clientele how to transition from a renter, how to buy a home and how to keep a safe, how to maintain a healthy home environment.

9) Managing Water, Energy, Waste and Air Quality in Agriculture - this program focuses on the research and dissemination of information related to the areas of managing water, energy, waste and air quality in agriculture. Specific research areas will include, but are not limited to: water quality management, animal waste management, nutrient management, irrigation water management under the agricultural pollution control program, watershed management, treatment and utilization of animal manures, and reducing ammonia emissions in poultry production.

10) Meat and Dairy Goat Production and Processing - Program efforts identify the niche market of goat meat. This program also identifies the attributes and types and of goat meat, cheese and milk products. Studies are conducted to determine the effects of preslaughter dietary treatment duration of feeding and spray washing on different areas of Chevon production.

11) New Product Development / Genomics and Cultivar Development - In this program, researchers will conduct basic and applied research to understand the genetics of traits of agronomic importance and the performance of potential

genotypes under field conditions, with an emphasis on crops/plants of current or potential importance to Georgia. Researchers evelop new cultivars, with emphasis on plants of current or potential importance to Georgia, which manifest improved performance or manifest value&ndashadded traits.

12) Plant Production and Protection &ndashResearch carried out in the laboratory, greenhouse, experimental farms and in collaboration with commercial producers.

13) Poultry Production and Protection - This program focuses on developing management methods to improve egg production, fertility and hatchability. Field research will be conducted to develop improved energy efficiency and conservation techniques. In addition, educational meetings about bird health, avian influenza and human health will be conducted with poultry farmers and industry representatives. Education materials for each research area will be distributed to select clientele.

14) Quality Caregiving for Children and Youth - Various programs on enhancing parenting /care giving skills are provided. Health, home maintenance and community service are the research and outreach topics. This program will offer conferences for senior citizens, childcare providers and youth. This program will also disseminate parenting fact sheets, age-paced newsletters and information on early brain development, provide parenting and child care provider education classes to agents and select clientele.

15) Specialty Plants Technology - Selected specialty plants, those with medicinal, nutraceutical and biofuel values, are studied for their invitro plant regeneration and genetic enhancement value -added traits including quality and quantity of phytomedicines, healthy nutrients, and biofuels. Different species of useful plants and animals will be grown / managed in an ecologically sound biological village system using environmentally sound management to develop it into a self -sustaining system on limited resources for improving quality of life for Americans.

16) Sustainability and Profitability of Agriculture - Issues addressed through this planned program, relate to the sustainability and profitability of agriculture, including, but not limited to: management, financial accounting and reporting strategies; alternate cultural practices that will protect, improve and maintain soil fertility; minimum tillage and cover crops; issues related to urban agriculture; value added products or production practices that can improve sustainability and profitability; investigation of niche markets in Georgia.

17) Technology Education for Seniors - Low intensity computer training classes are offered at the county level. Topics include: "Introduction to Computers," "Introduction to the Internet," "Introduction to Email," "Introduction to MS Word" and others as the needs assessment dictate.

18) Urban Agriculture - This program focuses on issues related to urban agriculture, including, but not limited to: breeding programs that incorporate variability derived from interspecific hybrids to greatly enhance the genetic pool from which new cultivars can be developed; water conservation technology and training; turf disease identification and management; development of new cost estimating and job bidding software for landscape installation; Master Gardner programs.

19) Youth Life Skill Development - This program will focus on issues related to 4H and youth life skill development. 4H faculty members develop curriculum, train and support county extension agents to conduct monthly educational programs for in&ndashschool club meetings around the state. They develop and support educational opportunities including individual learning projects and clubs and summer camping programs. A Georgia Youth Summit is held, which will bring youth and adults together to discuss and train on local issues effecting their communities. The Operation Military Kids Team was created to meet the needs of military youth and families who do not fit in the traditional military family system. A large part of this program will fund specialists research, outreach and their direct efforts primarily to county agents.

Total Actual Amount of professional FTEs/SYs for this State

Year: 2009	Extension		Research	
	1862	1890	1862	1890
Plan	89.0	8.0	46.0	24.0
Actual	98.8	6.5	58.6	13.5

II. Merit Review Process

1. The Merit Review Process that was Employed for this year

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

2. Brief Explanation

Both universities incorporated the items above in their merit review processes. A program development team meets four times per year to review plans of work and redirect resources as needed. All research projects conducted during this year were peer reviewed by both internal and external reviewers. In addition, greater than twenty percent of approved research projects are also associated with multistate/integrated projects which undergo an extensive review by the Southern Association of Agricultural Experimental Station Directors.

III. Stakeholder Input

1. Actions taken to seek stakeholder input that encouraged 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.

After visiting with local advisory committees, county agents responded to a statewide survey. The data from this survey was analyzed by the state program development team and recommendations were made to state faculty for next year's programming. County agents also used input from advisory committees to plan, execute, evaluate and communicate programming at the local level.

2(A). A brief statement of the process that was 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.

Statewide stakeholders and potential collaborators were identified by faculty and recommendations were made to the Dean for statewide advisory committees. The counties used a structured identification process to select a diverse advisory committee at the local level, to include representatives of both traditional and non-traditional stakeholder groups. The majority of counties reassessed and rotated their advisory committee membership this year.

External review teams have also provided suggestions as to new classifications of stakeholders, especially in regard to "departmental" advisory committees. The most dramatic changes in the research programs of the College occur when new faculty are hired. Departmental advisory committees help prioritize the needs of the stakeholders. Stakeholder input is also sought by members of search and screen committees prior to selecting candidates to interview and prior to the final recommendation.

2(B). A brief statement of the process that was 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.

Individual county level advisory committees met at least four times during the year. One youth development statewide survey was conducted to collect county input. The statewide CAES advisory committee met two times during the year. With the Archway Partnership, we invite individuals from the general public to participate in needs assessment and use for both Cooperative Extension and VP Public Service & Outreach (VPPSO) programming.

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.

All input is channeled to college administration so they have the knowledge to make budgetary decisions. All vacant positions in all departments are brought to college level administration for evaluation based on these criteria before a decision is made to refill. Or positions may be redirected as needed. The Dean solicits input from all faculty, staff and stakeholders prior to making hiring decisions on major administration positions.

Brief Explanation of what you learned from your Stakeholders

Research efforts of the College must be balanced to both meet the needs of stakeholders, communities and the economic and environmental sustainability of the state.

National reputation is important provided the local needs are being addressed.

Stakeholders are seeking a greater partnership with the College and are willing to contribute their time, talent and resources to build the overall College. Most are placing the long term survival and enhancement of the College above the needs of their particular operation, organization or community. They want to be part of the solution knowing that as the total College becomes stronger, all segments of our stakeholders will benefit.

IV. Expenditure Summary

1. Total Actual Formula dollars Allocated (prepopulated from C-REEMS)			
Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
7588373	2377303	5309162	2687059

2. Totaled Actual dollars from Planned Programs Inputs				
	Extension		Research	
	Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
Actual Formula	8238020	2129667	5752082	1614618
Actual Matching	8238020	2212212	5752082	1614618
Actual All Other	0	82545	0	0
Total Actual Expended	16476040	4424424	11504164	3229236

3. Amount of Above Actual Formula Dollars Expended which comes from Carryover funds from				
Carryover	0	0	0	0

V. Planned Program Table of Content

V(A). Planned Program (Summary)

Program # 1

1. Name of the Planned Program

Agriculture and Food Defense Program / Agrosecurity

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
133	Pollution Prevention and Mitigation	15%	0%	0%	0%
212	Pathogens and Nematodes Affecting Plants	15%	0%	0%	0%
315	Animal Welfare/Well-Being and Protection	15%	0%	0%	0%
608	Community Resource Planning and Development	35%	0%	0%	0%
723	Hazards to Human Health and Safety	20%	0%	0%	0%
	Total	100%	0%	0%	0%

V(C). Planned Program (Inputs)

1. Actual amount of professional FTE/SYs expended this Program

Year: 2009	Extension		Research	
	1862	1890	1862	1890
Plan	1.0	0.0	0.0	0.0
Actual	1.6	0.0	0.0	0.0

2. Actual dollars expended in this Program (includes Carryover Funds from previous years)

Extension		Research	
Smith-Lever 3b & 3c	**1890 Extension**	**Hatch**	**Evans-Allen**
131956	0	0	0
1862 Matching	**1890 Matching**	**1862 Matching**	**1890 Matching**
131956	0	0	0
1862 All Other	**1890 All Other**	**1862 All Other**	**1890 All Other**
0	0	0	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

This program will support the State Strategic Plan for Terrorism and All-Hazards Preparedness through participation in the Georgia Committee on Agriculture & Food Defense. The program will develop and deliver agro- and bio-security education to citizens through the county extension office. The program will lead development of the County Agriculture Response Teams (CART) and/or county agriculture disaster plans in collaboration with local emergency services leadership. It will provide trained extension professionals for key positions in emergency response and participate in the management of a statewide communications network to serve all Agriculture stakeholders. Faculty members will effectively liaison with industry and

government agencies.

2. Brief description of the target audience

University, and state and local government agencies, and industry will be trained for prevention and response capabilities. The general public will receive awareness education. 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 audience in their counties.

V(E). Planned Program (Outputs)

1. Standard output measures

2009	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Plan	250	1500	0	0
Actual	0	0	0	0

2. Number of Patent Applications Submitted (Standard Research Output)
Patent Applications Submitted

Year: 2009
Plan: 0
Actual: 0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2009	Extension	Research	Total
Plan	0	0	
Actual	0	0	0

V(F). State Defined Outputs

Output Target

Output #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.
  Not reporting on this Output for this Annual Report

Output #2

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.
  Not reporting on this Output for this Annual Report

Output #3

Output Measure

- Number of significant publications including referred journals articles, bulletins and extension publications. Not reporting on this Output for this Annual Report

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

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 program participants reporting increased knowledge after program participation.
3	County Agriculture Response Teams or county agriculture emergency plans created.
4	Creation of Food Emergency Response Plan
5	Creation of Animal Disaster Plan

Outcome #1

1. Outcome Measures

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. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	30000	521

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
133	Pollution Prevention and Mitigation
212	Pathogens and Nematodes Affecting Plants
315	Animal Welfare/Well-Being and Protection
608	Community Resource Planning and Development
723	Hazards to Human Health and Safety

Outcome #2

1. Outcome Measures

Percentage of program participants reporting increased knowledge after program participation.

Not Reporting on this Outcome Measure

Outcome #3

1. Outcome Measures

County Agriculture Response Teams or county agriculture emergency plans created.

Not Reporting on this Outcome Measure

Outcome #4

1. Outcome Measures

Creation of Food Emergency Response Plan

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	{No Data Entered}	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
The food supply in the Georgia is vulnerable to contamination to achieve disruption for political purposes. Response to such an emergency would require coordination of several state and federal regulatory and public health agencies and the food industry to avoid unnecessary panic by the public and to provide rapid mitigation of the contamination event.

What has been done
Faculty at in the Department of Food Science and Technology and the Institute for Health Management and Mass Destruction Defense (College of Public Health) developed a project to work with the
food industry and state and federal agencies to develop and exercise a plan for rapid and effective response to a food emergency.

Results
The plan clarifies the roles of the Georgia Department of Agriculture, Georgia Emergency Management Agency, Georgia Department of Public Health, Georgia Bureau of Investigation and the food industry. The plan specifies lines of communication and responsibilities for coordination of the emergency response. The plan will be sent to the governor for approval and will become part of the official emergency response plan for the state. Having an effective food emergency response minimizes the economic impact of a food contamination terrorism incident.

4. Associated Knowledge Areas

KA Code	Knowledge Area
608	Community Resource Planning and Development
723	Hazards to Human Health and Safety

Outcome #5

1. Outcome Measures

Creation of Animal Disaster Plan

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	{No Data Entered}	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
When Hurricane Katrina hit, 5 to 10 percent of the population did not evacuate because they refused to abandon their pets. Many of those who did not evacuate lost their lives.

What has been done
Federal and state governments have mandated all local jurisdictions develop an Animal Disaster Plan as an Annex to the Emergency Support Function Chapter 11 of the Local Emergency Response Plan.

Results
The generic template developed by UGA allows communities to rapidly complete a plan by providing a framework into which local jurisdictions can plug their local resources to complete the duty assignments and responsibilities. The Agrosecurity Team identified Glynn County as a candidate for ADP development. The Agrosecurity team worked with the EMA Director and Cooperative Extension agent to identify local resources to prepare a draft ADP for Glynn County. Glynn County quickly and fairly painlessly met its mandate to develop its Animal Disaster Plan Annex to its ESF-11. Knowledge that there is a plan for pet evacuation and that all the leading stakeholders have more than a passing acquaintance with the plan means Glynn County is much better prepared to conduct a safe and orderly evacuation of pets and their owners should a natural disaster threaten

4. Associated Knowledge Areas

KA Code	Knowledge Area
315	Animal Welfare/Well-Being and Protection
608	Community Resource Planning and Development

V(H). Planned Program (External Factors)

External factors which affected outcomes

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

Brief Explanation

The individual running this program had a severe stroke and has been unable to return to work. The program is being run on an interim basis by volunteer faculty.

V(I). Planned Program (Evaluation Studies and Data Collection)

1. Evaluation Studies Planned

Evaluation Results

Key Items of Evaluation

V(A). Planned Program (Summary)

Program # 2

1. Name of the Planned Program

Animal Production and Protection

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
112	Watershed Protection and Management	1%	0%	0%	0%
121	Management of Range Resources	0%	15%	0%	0%
125	Agroforestry	0%	10%	0%	0%
133	Pollution Prevention and Mitigation	10%	0%	0%	0%
134	Outdoor Recreation	1%	0%	0%	0%
205	Plant Management Systems	2%	0%	0%	0%
301	Reproductive Performance of Animals	9%	0%	3%	0%
302	Nutrient Utilization in Animals	13%	0%	9%	50%
303	Genetic Improvement of Animals	7%	20%	43%	0%
305	Animal Physiological Processes	3%	0%	14%	10%
306	Environmental Stress in Animals	4%	0%	1%	0%
307	Animal Management Systems	14%	35%	1%	0%
308	Improved Animal Products (Before Harvest)	2%	0%	0%	0%
311	Animal Diseases	10%	20%	16%	0%
315	Animal Welfare/Well-Being and Protection	1%	0%	6%	0%
402	Engineering Systems and Equipment	2%	0%	0%	0%
602	Business Management, Finance, and Taxation	5%	0%	0%	0%
607	Consumer Economics	14%	0%	0%	0%
702	Requirements and Function of Nutrients and Other Food Components	0%	0%	7%	40%
721	Insects and Other Pests Affecting Humans	2%	0%	0%	0%
	Total	100%	100%	100%	100%

V(C). Planned Program (Inputs)

1. Actual amount of professional FTE/SYs expended this Program

Year: 2009	Extension		Research	
	1862	1890	1862	1890
Plan	9.0	1.1	3.0	0.8
Actual	9.9	0.4	2.3	1.0

2. Actual dollars expended in this Program (includes Carryover Funds from previous years)

Extension		Research	
Smith-Lever 3b & 3c	**1890 Extension**	**Hatch**	**Evans-Allen**
827091	330181	220811	274068
1862 Matching	**1890 Matching**	**1862 Matching**	**1890 Matching**
827091	330181	220811	274068
1862 All Other	**1890 All Other**	**1862 All Other**	**1890 All Other**
0	0	0	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

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

The University of Georgia's "Beef Team" offered the Master Cattlemen's Program. This program involved detailed, in-depth educational seminars related to beef cattle. Two programs were offered annually throughout the state.

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

Studies were conducted to examine swine intake regulation. These added 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 were conducted concurrently that have the potential to reduce the environmental impact of animal agriculture.

This program updated Extension agents and clientele in pest control, through one-on-one discussions, meetings, or publications. It provided pest overviews for organizations such as the Georgia Cattlemen's Association. Faculty updated eleven sections of the Georgia Pest Management Handbook and provided biennial estimation of pest losses in livestock and dairy production.

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

Training was provided to the poultry industry on effective environmental management practices and education provided to the general public concerning the issues of nutrient management, nutrient balance, and sustainable water quality continued to be conducted.

New scientific information was made available to scientific peers through the publication of original research articles in scientific journals. More applied knowledge was 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. Brief description of the target audience

The target audience is sheep, goat, beef & pork producers, dairymen, horse owners, pet owners, county agents, veterinarians, industry professionals, scientific peers, and neighbors of livestock farms.

V(E). Planned Program (Outputs)

1. Standard output measures

2009	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Plan	2500	20000	400	1600
Actual	2638	18950	325	1062

2. Number of Patent Applications Submitted (Standard Research Output)
Patent Applications Submitted

Year: 2009
Plan: 0
Actual: 0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2009	Extension	Research	Total
Plan	5	5	
Actual	8	8	16

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Number of significant publications including bulletins and extension publications.

Year	Target	Actual
2009	30	16

Output #2

Output Measure

- Number of educational contact hours generated from formal educational programs or presentations for county extension agents.

Year	Target	Actual
2009	550	54

Output #3

Output Measure

- Number of educational contact hours generated from formal eduational programs or presentations for clinentele.

Year	Target	Actual

2009	700	725

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	Number of additiional 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 Georiga. Reported in millions of dollars.
4	Number of invited presentations by faculty as a direct result of the success of this program.
5	Percentage of program participants reporting increased knowledge after program particpation.
6	Percentage of program participants responding to follow-up survey that indicate changing at least one production practice as a result of this program.

Outcome #1

1. Outcome Measures

Number of additiional 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. Associated Institution Types

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

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	30000	46780

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
133	Pollution Prevention and Mitigation
301	Reproductive Performance of Animals
302	Nutrient Utilization in Animals
305	Animal Physiological Processes
306	Environmental Stress in Animals
307	Animal Management Systems
315	Animal Welfare/Well-Being and Protection
602	Business Management, Finance, and Taxation
607	Consumer Economics

Outcome #2

1. Outcome Measures

Number of Master Cattlemen certifications granted through this planned program.

2. Associated Institution Types

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

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	65	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
301	Reproductive Performance of Animals
302	Nutrient Utilization in Animals
305	Animal Physiological Processes
306	Environmental Stress in Animals
307	Animal Management Systems
315	Animal Welfare/Well-Being and Protection

Outcome #3

1. Outcome Measures

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

2. Associated Institution Types

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

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	1079	1264

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
301	Reproductive Performance of Animals
302	Nutrient Utilization in Animals
307	Animal Management Systems
315	Animal Welfare/Well-Being and Protection

Outcome #4

1. Outcome Measures

Number of invited presentations by faculty as a direct result of the success of this program.

2. Associated Institution Types

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

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual

2009	8	28

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
112	Watershed Protection and Management
121	Management of Range Resources
125	Agroforestry
134	Outdoor Recreation
205	Plant Management Systems
301	Reproductive Performance of Animals
302	Nutrient Utilization in Animals
305	Animal Physiological Processes
306	Environmental Stress in Animals
307	Animal Management Systems
308	Improved Animal Products (Before Harvest)
311	Animal Diseases
315	Animal Welfare/Well-Being and Protection
402	Engineering Systems and Equipment
702	Requirements and Function of Nutrients and Other Food Components
721	Insects and Other Pests Affecting Humans

Outcome #5

1. Outcome Measures

Percentage of program participants reporting increased knowledge after program particpation.

Not Reporting on this Outcome Measure

Outcome #6

1. Outcome Measures

Percentage of program participants responding to follow-up survey that indicate changing at least one production practice as a result of this program.

Not Reporting on this Outcome Measure

V(H). Planned Program (External Factors)

External factors which affected outcomes

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

Brief Explanation

- Market accessibility.
- Success rate of grant applications
- Weather conditions affect breeding success.
- The adoption of the multi-breed evaluation methodology will depend on the cooperation among breed associations in terms of sharing their data bases and providing funds for research and development.
- Willingness of dairy producers to participate in the sharing of data
- If the price drops substantially, producers may be less willing to focus on beef production and allocate their priorities and time towards other commodities.
- Personnel changes and availability of resources may influence and serve as alternative explanations for outcomes.
- Reduced public funding for fundamental forage and livestock production research could depress initiative to conduct needed high-quality research.

V(I). Planned Program (Evaluation Studies and Data Collection)

1. Evaluation Studies Planned

- After Only (post program)
- Retrospective (post program)
- During (during program)
- Time series (multiple points before and after program)

Evaluation Results

{No Data Entered}

Key Items of Evaluation

{No Data Entered}

V(A). Planned Program (Summary)

Program # 3

1. Name of the Planned Program

Aquaculture

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	25%	0%	0%	0%
131	Alternative Uses of Land	25%	20%	0%	20%
302	Nutrient Utilization in Animals	0%	11%	0%	20%
307	Animal Management Systems	25%	40%	0%	40%
312	External Parasites and Pests of Animals	0%	12%	0%	0%
403	Waste Disposal, Recycling, and Reuse	0%	7%	0%	10%
601	Economics of Agricultural Production and Farm Management	10%	10%	0%	10%
604	Marketing and Distribution Practices	15%	0%	0%	0%
	Total	100%	100%	0%	100%

V(C). Planned Program (Inputs)

1. Actual amount of professional FTE/SYs expended this Program

Year: 2009	Extension		Research	
	1862	1890	1862	1890
Plan	1.6	1.0	0.0	0.5
Actual	0.6	1.0	0.0	1.0

2. Actual dollars expended in this Program (includes Carryover Funds from previous years)

Extension		Research	
Smith-Lever 3b & 3c	**1890 Extension**	**Hatch**	**Evans-Allen**
46185	330181	0	119160
1862 Matching	**1890 Matching**	**1862 Matching**	**1890 Matching**
46185	330181	0	119160
1862 All Other	**1890 All Other**	**1862 All Other**	**1890 All Other**
0	0	0	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

Workshops were held on the topics of catfish production and freshwater prawn production that included distribution of detailed reference material. Publications were written to update existing catfish production and freshwater prawn production literature. Assistance was provided to at least 4 catfish processors in Georgia for plant development, market development, or supply development. Aquaculture product promotion and marketing was conducted to more than 6,000 consumers at the Sunbelt Exposition. The Georgia Aquaculture Association newsletter was edited and published biannually. The UGA Aquaculture website was maintained and included aquaculture information and events. Disease diagnosis services were provided to producers. Disease diagnosis and treatment recommendations were given along with informative publications. Water quality and aquatic weed identification services will also be provided. Workshops, presentations, newsletters, agriculture field days and tours of the greenhouse facilities were centered on the issues of aquatic animal disease, identification, treatment and prevention. Workshops were held on different types of aquaculture production systems, especially re-circulating aquaculture systems (RAS). Workshops were held on best management practices for RAS, water quality management, aquatic animal health management, nutrition and feeding in RAS. Training on cage culture system management, species and site selection, water quality management, aeration and other topics were also conducted. Training material, fact sheets, newsletters and other publications were prepared on the management and culture of aquatic animals in different aquaculture production systems.

2. Brief description of the target audience

Georgia farmers and citizens who plan to enter the aquaculture business or are already in business. Catfish processing plant operators and their clients are helped directly and through county extension agents. County extension agents are trained at workshops and update meetings. Small scale farmers or those without large acreage and other producers who can use RAS training. Senior citizens interested in additional activities. Seafood processors and their clients.

V(E). Planned Program (Outputs)

1. Standard output measures

2009	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Plan	400	300	800	0
Actual	1200	2200	2754	0

2. Number of Patent Applications Submitted (Standard Research Output)
Patent Applications Submitted

Year: 2009
Plan: 0
Actual: 0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2009	Extension	Research	Total
Plan	5	5	
Actual	0	0	0

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Number of significant publications including referred journals articles, bulletins and extension publications.
  Not reporting on this Output for this Annual Report

Output #2

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.

Year	Target	Actual
2009	80	80

Output #3

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.

Year	Target	Actual
2009	20	120

Output #4

Output Measure

- Number of significant publications such as extension bulletins, newspaper articles. (excluding peer reviewed articles)

Year	Target	Actual
2009	{No Data Entered}	7

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

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	Number of invited presentations by faculty as a direct result of the success of this program.
3	Percentage of program participants reporting an increase in skills proficiency in aquatic animal management and apuatic production systems.
4	Percentage of program participants who indicated a plan to adopt one or more of the practices recommended for proper aquatic management.
5	Number of pond acres in catfish production in Georgia reported annually.
6	Farm gate value of catfish production in Georgia. Reported annually in millions of dollars.
7	Aquaculture Education
8	Aquaculture Industry Development

Outcome #1

1. Outcome Measures

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. Associated Institution Types

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

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	800	5589

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
123	Management and Sustainability of Forest Resources
131	Alternative Uses of Land
307	Animal Management Systems
312	External Parasites and Pests of Animals
601	Economics of Agricultural Production and Farm Management
604	Marketing and Distribution Practices

Outcome #2

1. Outcome Measures

Number of invited presentations by faculty as a direct result of the success of this program.

2. Associated Institution Types

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

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	2	6

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
123	Management and Sustainability of Forest Resources
131	Alternative Uses of Land
302	Nutrient Utilization in Animals
307	Animal Management Systems
312	External Parasites and Pests of Animals
403	Waste Disposal, Recycling, and Reuse
601	Economics of Agricultural Production and Farm Management
604	Marketing and Distribution Practices

Outcome #3

1. Outcome Measures

Percentage of program participants reporting an increase in skills proficiency in aquatic animal management and apuatic production systems.

Not Reporting on this Outcome Measure

Outcome #4

1. Outcome Measures

Percentage of program participants who indicated a plan to adopt one or more of the practices recommended for proper aquatic management.

Not Reporting on this Outcome Measure

Outcome #5

1. Outcome Measures

Number of pond acres in catfish production in Georgia reported annually.

2. Associated Institution Types

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

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	2500	2213

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
123	Management and Sustainability of Forest Resources
131	Alternative Uses of Land
601	Economics of Agricultural Production and Farm Management

Outcome #6

1. Outcome Measures

Farm gate value of catfish production in Georgia. Reported annually in millions of dollars.

2. Associated Institution Types

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

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	5	8

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
123	Management and Sustainability of Forest Resources
131	Alternative Uses of Land
302	Nutrient Utilization in Animals
307	Animal Management Systems
312	External Parasites and Pests of Animals
601	Economics of Agricultural Production and Farm Management
604	Marketing and Distribution Practices

Outcome #7

1. Outcome Measures

Aquaculture Education

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	{No Data Entered}	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
Fish kills, aquatic vegetation control, pollution abatement, and fish population management are major issues brought to Extension.

What has been done
Cooperative Extension is usually the first point of contact for water owners and local governments seeking technical assistance for water management. An animal and dairy scientist specializing in aquaculture provides case studies and information to Extension agents and water managers. He implemented the Distance Diagnostic System, when possible, to increase the efficiency of case submission and response.

Results
Workshops were held to educate county Extension agents about fish diseases, sportfish pond management, and aquatic weed control. Responses to requests for assistance, calls, and diagnostics were provided to 1,072 clients in 2009. Contacts to commercial herbicide applicators and pond consultants were facilitated by maintaining a web site for clients. Cases averaged $29,700 in improved value of pond, property or fish population.

4. Associated Knowledge Areas

KA Code	Knowledge Area
123	Management and Sustainability of Forest Resources
131	Alternative Uses of Land
403	Waste Disposal, Recycling, and Reuse

Outcome #8

1. Outcome Measures

Aquaculture Industry Development

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	{No Data Entered}	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
Georgia fish farmers continue to respond to the high cost of feed and energy. Manufacture of pellets used to feed fish requires more energy than similar formulations in other livestock industries.

What has been done
Alternative feed ingredients may help reduce the cost of the fish feed formula, but energy cost must be reduced by changing manufacturing or delivery practices. Producers are changing to fish species that do not require as much manufactured feed as catfish do.

Results
Catfish processing in south Georgia saw an increase in volume of at least 25 percent during 2009. An animal and dairy scientist specializing in aquaculture provided help to farmers to obtain feed from lower-cost, out-of-state sources and to market fish directly to consumers for a higher net return. More than 8,000 contacts were made to distribute information in 2008. The Georgia aquaculture industry has sales estimated at $55.8 million in 2009, including catfish, sportfish, baitfish, alligators, mollusks, ornamentals and other aquatic organisms.

4. Associated Knowledge Areas

KA Code	Knowledge Area
307	Animal Management Systems
601	Economics of Agricultural Production and Farm Management

V(H). Planned Program (External Factors)

External factors which affected outcomes

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

Brief Explanation

Lack of funding will prevent program goals from being accomplished.

Fuel costs will cause fish feed costs to increase and also add to the final cost to the consumer which may reduce the demand for aquaculture products over time.

V(I). Planned Program (Evaluation Studies and Data Collection)

1. Evaluation Studies Planned

- Retrospective (post program)
- During (during program)
- Comparisons between different groups of individuals or program participants experiencing different levels of program intensity.

Evaluation Results

{No Data Entered}

Key Items of Evaluation

{No Data Entered}

V(A). Planned Program (Summary)

Program # 4

1. Name of the Planned Program

Biorefinery and Carbon Cycling Program

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
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%
	Total	100%	0%	100%	0%

V(C). Planned Program (Inputs)

1. Actual amount of professional FTE/SYs expended this Program

Year: 2009	Extension		Research	
	1862	1890	1862	1890
Plan	2.0	0.0	2.0	0.0
Actual	1.5	0.0	6.0	0.0

2. Actual dollars expended in this Program (includes Carryover Funds from previous years)

Extension		Research	
Smith-Lever 3b & 3c	**1890 Extension**	**Hatch**	**Evans-Allen**
127848	0	588830	0
1862 Matching	**1890 Matching**	**1862 Matching**	**1890 Matching**
127848	0	588830	0
1862 All Other	**1890 All Other**	**1862 All Other**	**1890 All Other**
0	0	0	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

Research projects were developed and conducted to improve on existing technologies and identify new and emerging technologies. Examples of research projects under development or implementation were discussed below. Many projects are currently underway or in the planning stages. Recently faculty activities in working with government, defense bases, and private industry in promoting bio-energy has increased. Attendance at the annual energy from biomass conference in Tifton is increasing each year. Numerous start-up companies are being established in Georgia to produce energy or fuels from biomass.

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 transesterfication 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 were further broken down before fermentation. The final sugar solution will be fermented for producing ethanol.

2. Brief description of the target audience

Farmers, agribusiness, community leaders, entrepreneurs

V(E). Planned Program (Outputs)

1. Standard output measures

2009	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Plan	700	1400	0	0
Actual	800	1500	30	30

2. Number of Patent Applications Submitted (Standard Research Output)
Patent Applications Submitted

Year: 2009
Plan: 5
Actual: 5

Patents listed
-Fog Supported Algal Mat Generator (FAM-Generator): A novel algal production technology for biofuel, bioenergy, and added value products.
-Process and product for minimizing nitrogen losses, enhancing microbial activity and accelerating stabilization of organic wastes during composting
-Production of higher quality bio-oils by in-line esterification of pyrolysis vapor with ethyl alcohol
-Renewable biomass, biofuel, and bioproducts production from carpet industry wastewater (treated and untreated) using mixotrophic alga(e)
-Mixotrophic algae and their consortia for the production of algae biofuel feedstock in wastewater ponds

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2009	Extension	Research	Total
Plan	4	4	
Actual	15	0	15

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Number of Significant Publications (excluding peer reviewed publications)

Year	Target	Actual
2009	2	20

Output #2

Output Measure

- Number of educational contact hours generated from formal programs for county agent in-service training.

Year	Target	Actual
2009	100	276

Output #3

Output Measure

- Number of educational contact hours generated from programs or workshop presented directly to clientele.

Year	Target	Actual
2009	700	800

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	Percentage of program particpants reporting increased knowledge after program particpation
2	The develoment of successful commercial enterprizes using technology developed in this program.
3	Number of invited presentations by faculty as a direct result of the success of this program.
4	Cumulative Impact Statement for Biorefinery and Carbon Cycling Program

Outcome #1

1. Outcome Measures

Percentage of program particpants reporting increased knowledge after program particpation

Not Reporting on this Outcome Measure

Outcome #2

1. Outcome Measures

The develoment of successful commercial enterprizes using technology developed in this program.

Not Reporting on this Outcome Measure

Outcome #3

1. Outcome Measures

Number of invited presentations by faculty as a direct result of the success of this program.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	{No Data Entered}	3

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
133	Pollution Prevention and Mitigation
403	Waste Disposal, Recycling, and Reuse
605	Natural Resource and Environmental Economics

Outcome #4

1. Outcome Measures

Cumulative Impact Statement for Biorefinery and Carbon Cycling Program

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	{No Data Entered}	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
Evaluation of New Co-products from Ethanol
In recent years, policies encouraging the production of biofuels has stimulated an enormous increase in the production of various by-products such as distiller's dried grains with solubles (DDGS), distillers dried grains (DDG), and high protein-distillers dried grains (HP-DDG). Poultry nutritionists need to understand the concerns, issues and feeding value of these various by-products before they are able to incorporate them into poultry diets.

Evaluation of Glycerin
In recent years, policies encouraging the production of biofuels has stimulated an enormous increase in the production of various by-products such as glycerin. Poultry nutritionists need to understand the concerns, issues and feeding value of glycerin before they are able to incorporate it into poultry diets.

Algae-Biofuels for Georgia Agriculture and Industry

What has been done
Evaluation of New Co-products from Ethanol
Work by UGA poultry scientists has shown that the variation in TMEn, AA digestibility, proximate composition, handling characteristics between DDGS and DDG-HP samples requires that confirmatory analyses be conducted prior to utilizing samples from a new supplier.

Evaluation of Glycerin
Work by UGA poultry scientists has shown that the variation in glycerin samples strongly indicates that confirmatory analyses should be conducted prior to utilizing samples from any supplier, and there is extreme variation.

Algae-Biofuels for Georgia Agriculture and Industry
In the past 2.5 years, we have begun developing a combined biotechnological system for processing and treating industrial, agricultural and municipal waste streams. We have completed two major projects on utilizing carpet industry wastewater with sewage mix for cultivation of algae to produce biofuels. We developed a novel approach of using robust consortium of native algal isolates for biofuel applications which is totally different from the conventional approach of using monocultures. We made biodiesel from consortium of native algal isolates cultivated in treated carpet industrial wastewater and established the proof of concept for their biofuel production

and nutrient removal potential. We also isolated 3 robust mixotrophic strains of algae from carpet industry wastewater which can utilize both CO2 and organic carbon sources simultaneously.

In another project we examined the productivity of this mixotrophic algal consortium in various types of reactors such as open raceway ponds, vertical tank photobioreactors, and polybags using untreated combined carpet industry wastewater with 10-15% sewage mix as growth medium.

Results

Evaluation of New Co-products from Ethanol
Understanding the variation in DDGS and HP-DDG will allow Georgia poultry producers to take advantage of this new feed ingredient which should provide them a savings in feed cost, especially if the price of corn (energy) continues to increase.

Evaluation of Glycerin
Understanding the variation in glycerin samples will allow Georgia poultry producers to take advantage of this new feed ingredient which may provide them a savings in feed costs, especially if the price of corn and fat (energy) continue to increase.

Algae-Biofuels for Georgia Agriculture and Industry
Dalton Utilities is planning to conduct pilot-scale studies in 2010 to develop this technology for biofuel production coupled with phosphorus removal.

In regards to the productivity of this mixotrophic algal consortium study, Polybag reactors gave the highest volumetric and areal biomass productivity compared to the raceways and vertical photobioreactors. Currently we are developing algal biomat production technology on solid surfaces using the principles of attached growth, to reduce harvesting costs and enhance biomass productivity for a continuation project funded by TIP PFFP.

We are educating the carpet mills regarding microalgae cultivation technology using carpet industry combined wastewater for renewable biomass production to produce biofuels. The volume of wastewater produced from carpet industries in Dalton is still about 10-12 billion gallons per year which can be used as a valuable resource as it contains 200-500 t of phosphorus and 1000- 2000 t of nitrogen. Theoretically we can produce about 23,000 t of algal biomass per year which can generate about one million gallons of biodiesel or 6.9 million m3 biomethane and 61 million kWh bioenergy, using the available nutrients in the combined raw carpet industry and Dalton sewage wastewater. Considering the future potential of algae biofuel technology, we are currently developing novel reactor configurations and advanced technologies for nutrients and CO2 delivery, harvesting and cost effective production of biodiesel, biomethane, and bioethanol from algal biomass which will reduce the cost of production leading to more rapid commercialization.

4. Associated Knowledge Areas

KA Code	Knowledge Area
133	Pollution Prevention and Mitigation
403	Waste Disposal, Recycling, and Reuse
605	Natural Resource and Environmental Economics

V(H). Planned Program (External Factors)

External factors which affected outcomes

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

Brief Explanation

V(I). Planned Program (Evaluation Studies and Data Collection)

1. Evaluation Studies Planned

- After Only (post program)
- During (during program)
- Time series (multiple points before and after program)
- Case Study

Evaluation Results

{No Data Entered}

Key Items of Evaluation

{No Data Entered}

V(A). Planned Program (Summary)

Program # 5

1. Name of the Planned Program

Chronic Disease Prevention / Healthy Lifestyles

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
214	Vertebrates, Mollusks, and Other Pests Affecting Plants	0%	0%	10%	0%
305	Animal Physiological Processes	0%	0%	80%	0%
314	Toxic Chemicals, Poisonous Plants, Naturally Occurring Toxins, and Other Hazards Affecting Animals	0%	0%	10%	0%
502	New and Improved Food Products	1%	0%	0%	0%
703	Nutrition Education and Behavior	47%	0%	0%	0%
724	Healthy Lifestyle	25%	100%	0%	0%
806	Youth Development	27%	0%	0%	0%
	Total	100%	100%	100%	0%

V(C). Planned Program (Inputs)

1. Actual amount of professional FTE/SYs expended this Program

Year: 2009	Extension		Research	
	1862	1890	1862	1890
Plan	4.0	0.0	4.0	0.0
Actual	7.4	0.0	0.5	0.0

2. Actual dollars expended in this Program (includes Carryover Funds from previous years)

Extension		Research	
Smith-Lever 3b & 3c	**1890 Extension**	**Hatch**	**Evans-Allen**
618327	0	44162	0
1862 Matching	**1890 Matching**	**1862 Matching**	**1890 Matching**
618327	0	44162	0
1862 All Other	**1890 All Other**	**1862 All Other**	**1890 All Other**
0	0	0	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

Disseminated fact sheets on weight control, physical activity, diabetes management and prevention, cardiovascular disease

prevention and cancer prevention. Provided training about chronic disease prevention and control to agents and selected clientele. Provided information disseminated by agents to media outlets.

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

Faculty conducted weight loss research.

2. Brief description of the target audience

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 adults and youth at risk for chronic diseases or who have already developed them. Program will also target he rural disadvantaged, working homemakers, small-scale family and part-time farmers, community leaders, small business operators, scientist, industry professionals, and other members of the general public in Georgia.

V(E). Planned Program (Outputs)

1. Standard output measures

2009	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Plan	600	2000	1050	10000
Actual	670	651	17200	12615

2. Number of Patent Applications Submitted (Standard Research Output)
Patent Applications Submitted

Year: 2009
Plan: 0
Actual: 3

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2009	Extension	Research	Total
Plan	10	10	
Actual	0	0	0

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Number of significant publications including articles, bulletins and extension publications. (excluding peer reviewed)

Year	Target	Actual
2009	15	7

Output #2

Output Measure

- Number of educational contact hours generated from formal educational programs or presentations for county extension agents

Year	Target	Actual
2009	260	160

Output #3

Output Measure

- Number of educational contact hours generated from formal educational programs or presentations conducted for clientele.

Year	Target	Actual
2009	105	120

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

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 outcome of the work of faculty receiving federal fund within this planned program.
2	Percent of people affected by diabetes that chose a lower fat, lower sodium or lower sugar food ingredient.
3	Percent of people at risk for cancer who chose a lower fat or lower sodium food item.
4	Number of invited presentations by faculty as a direct result of the success of this program.

Outcome #1

1. Outcome Measures

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

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	14500	23264

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
703	Nutrition Education and Behavior
724	Healthy Lifestyle
806	Youth Development

Outcome #2

1. Outcome Measures

Percent of people affected by diabetes that chose a lower fat, lower sodium or lower sugar food ingredient.

Not Reporting on this Outcome Measure

Outcome #3

1. Outcome Measures

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

Not Reporting on this Outcome Measure

Outcome #4

1. Outcome Measures

Number of invited presentations by faculty as a direct result of the success of this program.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	2	12

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
214	Vertebrates, Mollusks, and Other Pests Affecting Plants
305	Animal Physiological Processes
314	Toxic Chemicals, Poisonous Plants, Naturally Occurring Toxins, and Other Hazards Affecting Animals
502	New and Improved Food Products
703	Nutrition Education and Behavior
724	Healthy Lifestyle
806	Youth Development

V(H). Planned Program (External Factors)

External factors which affected outcomes

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

Brief Explanation

- Funding sources have been decreasing at both the federal, state and private levels.
- 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.
- More funds and efforts may need to be directed toward the Hispanic/Latino population.

V(I). Planned Program (Evaluation Studies and Data Collection)

1. Evaluation Studies Planned

- After Only (post program)
- Before-After (before and after program)
- During (during program)

Evaluation Results

{No Data Entered}

Key Items of Evaluation

{No Data Entered}

V(A). Planned Program (Summary)

Program # 6

1. Name of the Planned Program

Consumer Economics and Financial Literacy

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	100%	20%	0%	0%
723	Hazards to Human Health and Safety	0%	10%	0%	0%
801	Individual and Family Resource Management	0%	50%	0%	0%
804	Human Environmental Issues Concerning Apparel, Textiles, and Residential and Commercial Structures	0%	20%	0%	0%
	Total	100%	100%	0%	0%

V(C). Planned Program (Inputs)

1. Actual amount of professional FTE/SYs expended this Program

Year: 2009	Extension		Research	
	1862	1890	1862	1890
Plan	2.0	1.1	0.0	0.0
Actual	1.5	0.3	0.0	0.0

2. Actual dollars expended in this Program (includes Carryover Funds from previous years)

Extension		Research	
Smith-Lever 3b & 3c	**1890 Extension**	**Hatch**	**Evans-Allen**
125358	0	0	0
1862 Matching	**1890 Matching**	**1862 Matching**	**1890 Matching**
125358	82545	0	0
1862 All Other	**1890 All Other**	**1862 All Other**	**1890 All Other**
0	82545	0	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

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

In collaboration with our extension partners and stakeholders FVSU faculty developed 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 were conducted. Resources and materials from like-minded consumer advocacy organizations were disseminated. More than 100 news articles and over a dozen radio spots were developed for distribution by county agents to local media outlets.

2. Brief description of the target audience

The targeted audiences of the FVSU faculty will be all Georgians and residents in surrounding areas with emphasis on Limited resource individuals, low-income families, the unemployed, small farm families, children/youth-at-risk, and senior citizens.

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

V(E). Planned Program (Outputs)

1. Standard output measures

2009	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Plan	775	30000	200	500
Actual	325	325	285	450

2. Number of Patent Applications Submitted (Standard Research Output)
Patent Applications Submitted

Year: 2009
Plan: 0
Actual: 0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2009	Extension	Research	Total
Plan	3	0	
Actual	1	0	1

V(F). State Defined Outputs

Output Target

Output #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.

Year	Target	Actual
2009	200	30

Output #2

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.

Year	Target	Actual
2009	7	50

Output #3

Output Measure

- Number of significant publications including articles, bulletins and extension publications. (excluding peer reviewed)

Year	Target	Actual
2009	8	5

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

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	Number of invited presentations by faculty as a direct result of the success of this program.
3	Your Money Your Future Curriculum Development

Outcome #1

1. Outcome Measures

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. Associated Institution Types

- 1862 Extension
- 1890 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	6500	30744

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
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

Outcome #2

1. Outcome Measures

Number of invited presentations by faculty as a direct result of the success of this program.

2. Associated Institution Types

- 1862 Extension
- 1890 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	2	15

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
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

Outcome #3

1. Outcome Measures

Your Money Your Future Curriculum Development

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	{No Data Entered}	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
Equipping Georgia's youth with financial literacy skills reduces the likelihood of credit abuse and overspending later in life.

What has been done
Your Money, Your Future is a series of six financial management lesson plans from Cooperative Extension targeted to 5th through 8th grade students. The Lanier County Family and Consumer Sciences agent, Lowndes 4-H agent, and Randolph 4-H agent worked with the Consumer Economics Specialist to develop this financial

literacy curriculum for youth.

Results
The Youth Financial Literacy Curriculum is currently being piloted in schools across 66 Georgia counties, and reaching several thousand youth.

4. Associated Knowledge Areas

KA Code	Knowledge Area
607	Consumer Economics

V(H). Planned Program (External Factors)

External factors which affected outcomes

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

Brief Explanation

V(I). Planned Program (Evaluation Studies and Data Collection)

1. Evaluation Studies Planned

- After Only (post program)
- Retrospective (post program)
- Before-After (before and after program)
- Time series (multiple points before and after program)
- Case Study

Evaluation Results

{No Data Entered}

Key Items of Evaluation

{No Data Entered}

V(A). Planned Program (Summary)

Program # 7

1. Name of the Planned Program

Food Processing, Protection & Safety

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
204	Plant Product Quality and Utility (Preharvest)	0%	0%	50%	0%
216	Integrated Pest Management Systems	8%	0%	0%	0%
401	Structures, Facilities, and General Purpose Farm Supplies	0%	10%	8%	0%
402	Engineering Systems and Equipment	0%	0%	5%	0%
403	Waste Disposal, Recycling, and Reuse	0%	10%	0%	0%
501	New and Improved Food Processing Technologies	7%	10%	0%	35%
502	New and Improved Food Products	0%	10%	13%	0%
503	Quality Maintenance in Storing and Marketing Food Products	0%	10%	0%	25%
504	Home and Commercial Food Service	23%	0%	0%	0%
511	New and Improved Non-Food Products and Processes	0%	10%	12%	0%
512	Quality Maintenance in Storing and Marketing Non-Food Products	0%	10%	0%	0%
701	Nutrient Composition of Food	0%	0%	0%	20%
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins	28%	30%	12%	20%
721	Insects and Other Pests Affecting Humans	8%	0%	0%	0%
722	Zoonotic Diseases and Parasites Affecting Humans	8%	0%	0%	0%
723	Hazards to Human Health and Safety	18%	0%	0%	0%
	Total	100%	100%	100%	100%

V(C). Planned Program (Inputs)

1. Actual amount of professional FTE/SYs expended this Program

Year: 2009	Extension		Research	
	1862	1890	1862	1890
Plan	8.0	0.3	0.0	6.8
Actual	4.9	0.3	3.1	0.0

2. Actual dollars expended in this Program (includes Carryover Funds from previous years)

Extension		Research	
Smith-Lever 3b & 3c	**1890 Extension**	**Hatch**	**Evans-Allen**
407994	82545	306682	0
1862 Matching	**1890 Matching**	**1862 Matching**	**1890 Matching**
407994	82545	306682	0
1862 All Other	**1890 All Other**	**1862 All Other**	**1890 All Other**
0	0	0	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

The activities of this planned program include:
•Projects to analyze consumer demand for food

•Development of models

•Publishing of journal papers and other media.

•Workshops and short courses for food industry

Topics for workshops included but were not limited to Serve Safe Education, Agrosecurity, Basic Food Safety,

Food Preservation, and HACCP (Hazard Analysis and Critical Control Points).

•Research studies of food processing industry

These research results demonstrated that the Flash & Go automated colony counter is an effective, accurate

and time saving alternative to the standard method of manual counting.

2. Brief description of the target audience

Food industry professionals, crop producers, energy firms, HACCP coordinators, microbiologists, third-party auditors, scientists, government inspectors, county extension agents.

V(E). Planned Program (Outputs)

1. Standard output measures

2009	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Plan	250	1000	0	0
Actual	4479	14075	460	555

2. Number of Patent Applications Submitted (Standard Research Output)

Patent Applications Submitted

Year: 2009
Plan: 0
Actual: 0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2009	Extension	Research	Total
Plan	4	4	
Actual	9	2	11

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Educational contacts hours (number of students X teaching hours) from workshops to clientele

Year	Target	Actual
2009	2000	2134

Output #2

Output Measure

- Number of significant publications such as extension bulletins, newspaper articles. (excluding peer reviewed articles)

Year	Target	Actual
2009	15	0

Output #3

Output Measure

- Number of research projects completed on dairy goat development, food quality and economic evaluation.

Year	Target	Actual
2009	2	3

Output #4

Output Measure

- Number of persons taking and passing the HACCP certification exam.

Year	Target	Actual
2009	70	131

Output #5

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.

Year	Target	Actual
2009	{No Data Entered}	1008

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	Reduction of incidence of foodborne illness due to better training methods on handling and processing food safety.
2	Placement of gradutate students in food related industry, government agencies or institutions of higher education.
3	Number of invited presentations at professional society meetings
4	Number of food handlers receiving ServSafe certification from Extension Agent programs.
5	Average percent increase in food safety test scores as a result of programs conducted statewide.

Outcome #1

1. Outcome Measures

Reduction of incidence of foodborne illness due to better training methods on handling and processing food safety.

Not Reporting on this Outcome Measure

Outcome #2

1. Outcome Measures

Placement of gradutate students in food related industry, government agencies or institutions of higher education.

Not Reporting on this Outcome Measure

Outcome #3

1. Outcome Measures

Number of invited presentations at professional society meetings

2. Associated Institution Types

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

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	2	31

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
204	Plant Product Quality and Utility (Preharvest)
216	Integrated Pest Management Systems

401	Structures, Facilities, and General Purpose Farm Supplies
402	Engineering Systems and Equipment
501	New and Improved Food Processing Technologies
502	New and Improved Food Products
503	Quality Maintenance in Storing and Marketing Food Products
701	Nutrient Composition of Food
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins
722	Zoonotic Diseases and Parasites Affecting Humans
723	Hazards to Human Health and Safety

Outcome #4

1. Outcome Measures

Number of food handlers receiving ServSafe certification from Extension Agent programs.

2. Associated Institution Types

- 1862 Extension
- 1862 Research
- 1890 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	{No Data Entered}	717

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
403	Waste Disposal, Recycling, and Reuse
501	New and Improved Food Processing Technologies
503	Quality Maintenance in Storing and Marketing Food Products
504	Home and Commercial Food Service
511	New and Improved Non-Food Products and Processes
512	Quality Maintenance in Storing and Marketing Non-Food Products
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally

	Occurring Toxins
721	Insects and Other Pests Affecting Humans
722	Zoonotic Diseases and Parasites Affecting Humans
723	Hazards to Human Health and Safety

Outcome #5

1. Outcome Measures

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

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	{No Data Entered}	20

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
Due to the fact that 76 million Americans suffer from foodborne illnesses each year and Georgia Food Service regulations are changing, there is a need to increase food safety knowledge to improve food safety behavior. Safe food handling practices can be learned and a high demand for foodservice certification exists.

What has been done
1)ServSafe Education classes were conducted for Extension Agents and clientele. 2)Two workshops were conducted on basic agrosecurity
awareness for agents, emergency personnel and food industry representatives. 3)Basic food safety training was provided to new Family and Consumer Sciences Extension Agents. 4)Food Safety was taught as a part of specific Foods and Nutrition Classes 5)Food Preservation training was provided to new Family and Consumer Sciences Extension Agents.

Results
717 food handlers received ServSafe certification.
170 agents increased their knowledge as a result of food safety training provided by specialists.
A 20% increase in food safety test scores was reported as a result of programs conducted statewide.

4. Associated Knowledge Areas

KA Code	Knowledge Area
504	Home and Commercial Food Service
723	Hazards to Human Health and Safety

V(H). Planned Program (External Factors)

External factors which affected outcomes

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

Brief Explanation

Regulations may change the requirement for training hours and content emphases. Disaster/emergency situations may impact time committed to particular topics in food safety.

Targeting hard-to-reach audiences may require a larger commitment of time.

Tightened economy reduces attendance because of budget cutbacks. Government regulations may mandate HACCP training in new areas, which will increase attendance. Shift in priorities by consumers may cause changes in programming to meet those new mandates. Commodity organizations and other universities sponsoring their own HACCP training courses could reduce our attendance.

The largest concern with nanoparticles is their safety. This creates competing priorities (the possibility of more funding going toward safety projects as opposed to this type of project) and the potential for changes in policy that may put a moratorium on use of engineered nanoscale features in the food supply.

V(I). Planned Program (Evaluation Studies and Data Collection)

1. Evaluation Studies Planned

- Retrospective (post program)
- Before-After (before and after program)
- During (during program)
- Case Study

Evaluation Results

{No Data Entered}

Key Items of Evaluation

{No Data Entered}

V(A). Planned Program (Summary)

Program # 8

1. Name of the Planned Program

Housing and the Near Environment

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%
	Total	100%	100%	0%	0%

V(C). Planned Program (Inputs)

1. Actual amount of professional FTE/SYs expended this Program

Year: 2009	Extension		Research	
	1862	1890	1862	1890
Plan	2.0	1.0	0.0	0.0
Actual	4.1	1.0	0.0	0.0

2. Actual dollars expended in this Program (includes Carryover Funds from previous years)

Extension		Research	
Smith-Lever 3b & 3c	**1890 Extension**	**Hatch**	**Evans-Allen**
343086	330181	0	0
1862 Matching	**1890 Matching**	**1862 Matching**	**1890 Matching**
343086	330181	0	0
1862 All Other	**1890 All Other**	**1862 All Other**	**1890 All Other**
0	0	0	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

Faculty developed and disseminated information on indoor air quality, water quality, waste management and energy management.

The homebuyer education program helped consumers gain the knowledge they needed to become successful homeowners. This included ensuring that participants have an understanding of the buying process, mortgages, financial management, and how to prevent foreclosure and default. The program also included education in maintaining a safe, clean and healthy home environment. All graduates of the classes received 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 was 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.

The annual statewide Housing Conference was held. This workshop raised consumer awareness of programs available to assist with home ownership needs. Fifteen home buyer education workshops facilitated by one faculty member. This FVSU faculty member reports that of the 300 participants reached 22 purchased homes valued at approximately $1.2 million.

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

2. Brief description of the target 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 with a focus on the needs of minorities and rural areas that are classified as limited-resource clientele.

V(E). Planned Program (Outputs)

1. Standard output measures

2009	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Plan	410	15000	60	0
Actual	687	275	71	0

2. Number of Patent Applications Submitted (Standard Research Output)
Patent Applications Submitted

Year: 2009
Plan: 0
Actual: 0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2009	Extension	Research	Total
Plan	3	0	
Actual	9	0	9

V(F). State Defined Outputs

Output Target

Output #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.

Year	Target	Actual
2009	900	91

Output #2

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.

Year	Target	Actual
2009	100	2134

Output #3

Output Measure

- Number of significant publications including referred journals articles, bulletins and extension publications.

Year	Target	Actual
2009	2	3

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

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 Qquality 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.
6	Number of invited presentations by faculty as a direct result of the success of this program.
7	The percentage of participants who intended to test their homes for indoor air quality contaminants as a result of the educational programs conducted by county agents.
8	The percentage of participants who indicated that they will adopt one or more of the practices recommended in the educational program

Outcome #1

1. Outcome Measures

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. Associated Institution Types

- 1862 Extension
- 1890 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	120000	91206

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
801	Individual and Family Resource Management
804	Human Environmental Issues Concerning Apparel, Textiles, and Residential and Commercial Structures

Outcome #2

1. Outcome Measures

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

2. Associated Institution Types

- 1862 Extension
- 1890 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	80	70

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
801	Individual and Family Resource Management
804	Human Environmental Issues Concerning Apparel, Textiles, and Residential and Commercial Structures

Outcome #3

1. Outcome Measures

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

Not Reporting on this Outcome Measure

Outcome #4

1. Outcome Measures

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

2. Associated Institution Types

- 1862 Extension
- 1890 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	0	36

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
801	Individual and Family Resource Management
804	Human Environmental Issues Concerning Apparel, Textiles, and Residential and Commercial Structures

Outcome #5

1. Outcome Measures

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

2. Associated Institution Types

- 1862 Extension
- 1890 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	5	22

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
801	Individual and Family Resource Management
804	Human Environmental Issues Concerning Apparel, Textiles, and Residential and Commercial Structures

Outcome #6

1. Outcome Measures

Number of invited presentations by faculty as a direct result of the success of this program.

2. Associated Institution Types

- 1862 Extension
- 1890 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	{No Data Entered}	7

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

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

Outcome #7

1. Outcome Measures

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

2. Associated Institution Types

- 1862 Extension
- 1890 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	{No Data Entered}	100

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
801	Individual and Family Resource Management
804	Human Environmental Issues Concerning Apparel, Textiles, and Residential and Commercial Structures

Outcome #8

1. Outcome Measures

The percentage of participants who indicated that they will adopt one or more of the practices recommended in the educational program

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	{No Data Entered}	29

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
804	Human Environmental Issues Concerning Apparel, Textiles, and Residential and Commercial Structures

V(H). Planned Program (External Factors)

External factors which affected outcomes

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

Brief Explanation

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 improving the energy efficiency of their home. Increases in the population and density influence water quality, energy use and waste management.

V(I). Planned Program (Evaluation Studies and Data Collection)

1. Evaluation Studies Planned

- After Only (post program)
- Before-After (before and after program)
- Case Study

Evaluation Results

{No Data Entered}

Key Items of Evaluation

{No Data Entered}

V(A). Planned Program (Summary)

Program # 9

1. Name of the Planned Program

Managing Water, Energy, Waste and Air Quality in Agriculture

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
101	Appraisal of Soil Resources	3%	0%	0%	0%
102	Soil, Plant, Water, Nutrient Relationships	10%	0%	0%	0%
104	Protect Soil from Harmful Effects of Natural Elements	5%	0%	0%	0%
111	Conservation and Efficient Use of Water	13%	0%	10%	0%
112	Watershed Protection and Management	21%	0%	5%	0%
131	Alternative Uses of Land	0%	0%	8%	0%
133	Pollution Prevention and Mitigation	16%	0%	24%	0%
134	Outdoor Recreation	0%	0%	8%	0%
141	Air Resource Protection and Management	1%	0%	0%	0%
205	Plant Management Systems	25%	0%	0%	0%
403	Waste Disposal, Recycling, and Reuse	6%	0%	20%	0%
511	New and Improved Non-Food Products and Processes	0%	0%	10%	0%
605	Natural Resource and Environmental Economics	0%	0%	15%	0%
	Total	100%	0%	100%	0%

V(C). Planned Program (Inputs)

1. Actual amount of professional FTE/SYs expended this Program

Year: 2009	Extension		Research	
	1862	1890	1862	1890
Plan	17.0	0.5	11.0	0.0
Actual	14.4	0.0	13.1	0.0

2. Actual dollars expended in this Program (includes Carryover Funds from previous years)

Extension		Research	
Smith-Lever 3b & 3c	**1890 Extension**	**Hatch**	**Evans-Allen**
1205531	0	1287378	0
1862 Matching	**1890 Matching**	**1862 Matching**	**1890 Matching**
1205531	0	1287378	0
1862 All Other	**1890 All Other**	**1862 All Other**	**1890 All Other**
0	0	0	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

Knowledge in environmental sciences was improved by applied and basic research studies and by dissemination of results through journal articles such as HortScience, conferences, and professional meetings. Extension outputs to improve public understanding of environmental management consisted of bulletins, flyers, short courses, meetings, and web pages related to implementation of environmental management programs. Topics included: Biomicrometeorology, Molecular Environmental Science, Nutrient Management, Remediation, Soil Biology and Biochemistry, Soil Pedology, Waste Management, Water Resources

Georgia was actively involved in regional and national efforts consistent with the goals of our water quality programs. We led the regional efforts in animal waste management and were involved with numerous state, regional, and national efforts in this area. Research projects and educational efforts were 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 was a primary focus along with wastewater management. There was also focus on watershed management. Many parts of the water quality program reached audiences beyond the agricultural community including support for communities and local governments.

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

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

2. Brief description of the target audience

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

V(E). Planned Program (Outputs)

1. Standard output measures

2009	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Plan	3500	15000	100	100
Actual	5500	9100	550	1100

2. Number of Patent Applications Submitted (Standard Research Output)
Patent Applications Submitted

Year: 2009
Plan: 2
Actual: 3

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2009	Extension	Research	Total
Plan	30	30	
Actual	113	4	117

V(F). State Defined Outputs

Output Target

Output #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.

Year	Target	Actual
2009	350	145

Output #2

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.

Year	Target	Actual
2009	2500	3040

Output #3

Output Measure

- Number of significant publications including articles, bulletins and extension publications. (excluding refereed articles)

Year	Target	Actual
2009	5	39

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

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 program participants reporting increased knowledge after program participation.
3	Percentage of program participants who indicated a plan to adopt one or more of the practices recommended in this program.
4	Number of invited presentations by faculty as a direct result of the success of this program.
5	Environmental Learning Center

Outcome #1

1. Outcome Measures

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. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	12500	136733

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
101	Appraisal of Soil Resources
102	Soil, Plant, Water, Nutrient Relationships
104	Protect Soil from Harmful Effects of Natural Elements
111	Conservation and Efficient Use of Water
112	Watershed Protection and Management
131	Alternative Uses of Land
133	Pollution Prevention and Mitigation
141	Air Resource Protection and Management
403	Waste Disposal, Recycling, and Reuse
511	New and Improved Non-Food Products and Processes

Outcome #2

1. Outcome Measures

Percentage of program participants reporting increased knowledge after program participation.

Not Reporting on this Outcome Measure

Outcome #3

1. Outcome Measures

Percentage of program participants who indicated a plan to adopt one or more of the practices recommended in this program.

Not Reporting on this Outcome Measure

Outcome #4

1. Outcome Measures

Number of invited presentations by faculty as a direct result of the success of this program.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	{No Data Entered}	36

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
101	Appraisal of Soil Resources
102	Soil, Plant, Water, Nutrient Relationships
104	Protect Soil from Harmful Effects of Natural Elements
111	Conservation and Efficient Use of Water
112	Watershed Protection and Management
131	Alternative Uses of Land
133	Pollution Prevention and Mitigation
134	Outdoor Recreation
141	Air Resource Protection and Management
205	Plant Management Systems
403	Waste Disposal, Recycling, and Reuse

511	New and Improved Non-Food Products and Processes
605	Natural Resource and Environmental Economics

Outcome #5

1. Outcome Measures

Environmental Learning Center

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	{No Data Entered}	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
The U.S. Environmental Protection Agency has identified agriculture, and livestock and poultry production in particular, as the leading contributor of nutrients to the nation's rivers and streams. Water quality issues associated with animal agriculture are the current focus of significant public policy.

What has been done
By working with a national team of experts and the eXtension network, the Livestock and Poultry Environmental Learning Center was established to serve as a national clearinghouse for science-based information on Livestock and Poultry environmental issues. A team of investigators from the Universities of Washington, Nebraska, and Georgia have
worked with a customer advisory team that includes more than 15 agricultural, environmental, state, and federal organizations, and a team of more than 130 scientists and Cooperative Extension professionals from around the country. The vision of the Center is that individuals involved in public policy issues, animal production, and delivery of technical services for confined animal systems will have on-demand access to the nation's best science-based resources. The Center is responsive to priority and emerging environmental issues associated with animal agriculture and provides on-demand access to the best science-based information available

Results
More than 1,500 individuals have subscribed to the monthly newsletter and the website attracts more than 200,000 page views annually. The Center has hosted more than 32 web cast seminars on animal manure management issues. Participants using the LPE Learning Center resources have contributed to significant or moderate improvements in nutrient management plans, permit application or compliance, application of emerging technologies, increased value from manure utilization, policy development, policy implementation and advice to animal producers.

4. Associated Knowledge Areas

KA Code	Knowledge Area

102	Soil, Plant, Water, Nutrient Relationships
112	Watershed Protection and Management
133	Pollution Prevention and Mitigation

V(H). Planned Program (External Factors)

External factors which affected outcomes

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

Brief Explanation

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.
While water resource management will be critical regardless of most external factors, the interest will ebb and flow with many of these external factors.
Drought events may increase the need for more efficient irrigation, and thus make funding more readily available.
Funding opportunities always depend on the health of the economy. Government regulations concerning water use may also increasing funding opportunities, while competing public priorities may decrease it. Competing programmatic challenges always need to be weighed, and if other programmatic areas become more or less important, that will affect progress of this program.
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 put into environmental management.

V(I). Planned Program (Evaluation Studies and Data Collection)

1. Evaluation Studies Planned

- After Only (post program)
- Retrospective (post program)
- During (during program)
- Case Study

Evaluation Results

{No Data Entered}

Key Items of Evaluation

{No Data Entered}

V(A). Planned Program (Summary)

Program # 10

1. Name of the Planned Program

Meat and Dairy Goat Production and Processing

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
303	Genetic Improvement of Animals	0%	0%	0%	17%
304	Animal Genome	0%	0%	0%	17%
305	Animal Physiological Processes	0%	0%	0%	3%
306	Environmental Stress in Animals	0%	0%	0%	3%
307	Animal Management Systems	100%	0%	0%	3%
308	Improved Animal Products (Before Harvest)	0%	0%	0%	7%
502	New and Improved Food Products	0%	0%	0%	7%
601	Economics of Agricultural Production and Farm Management	0%	0%	0%	7%
604	Marketing and Distribution Practices	0%	0%	0%	19%
607	Consumer Economics	0%	0%	0%	7%
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins	0%	0%	0%	10%
	Total	100%	0%	0%	100%

V(C). Planned Program (Inputs)

1. Actual amount of professional FTE/SYs expended this Program

Year: 2009	Extension		Research	
	1862	1890	1862	1890
Plan	0.0	0.0	0.0	4.0
Actual	0.4	0.0	0.0	1.3

2. Actual dollars expended in this Program (includes Carryover Funds from previous years)

Extension		Research	
Smith-Lever 3b & 3c	**1890 Extension**	**Hatch**	**Evans-Allen**
32989	0	0	506430
1862 Matching	**1890 Matching**	**1862 Matching**	**1890 Matching**
32989	0	0	506430
1862 All Other	**1890 All Other**	**1862 All Other**	**1890 All Other**
0	0	0	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

This program attempted to identify the niche market of goat meat. It identified the attributes and types of goat meat products. The program tapped efficient marketing channels of goat meat supply chain and evaluated the production efficiency. Studies were conducted to examine the impact of goal production on a local economy.

A database of small goat farmers was developed. Studies were conducted to determine the effects of pre-slaughter dietary treatments on oxidation rate as well as nutritional, physicochemical and organoleptic properties of chevon-based value-added products. Additionally these studies determined the effects of pre-slaughter diet and duration of feeding on Escherichia coli and other enteric bacterial populations in rumen and rectum, and contamination of skin and carcass in goats. Studies were conducted to determine the effects of pre-harvest spray washing on skin and carcass bacterial counts in goats and the effects of pre-harvest diet, feed deprivation, and spray washing on blood hormone and metabolite concentrations. Faculty disseminated the research findings through scientific and extension meetings, as well as through publications in journals and newsletters. A survey was conducted to determine the decision making process of meat goat production. Papers were presented at the 67th PAWC meeting and the Association of Social and Behavioral Scientists Conference.

As a part of this program goat milk cheeses (i.e., Cheddar and Monterey Jack type), reduced fat/cholesterol cheeses, and infant formulas were developed. Food quality parameters and nutrient availability of the dairy goat products were evaluated. One study concluded that the inclusion of sericea lespedeza hay in the goat diet did not influence the nutritional and fatty acid profile of chevon, as well as cooked flavor volatiles. Faculty shared the results of the research by disseminating findings to the target audience including the scientific community in food and agricultural sciences, extension workers, goat enthusiasts, dairy producers and consumers through training courses, seminars, workshops, goat field day, and e-mail communications, etc.

These results demonstrated that the Flash & Go automated colony counter is an effective, accurate and time saving alternative to the standard method of manual counting.

2. Brief description of the target audience

The scientific community in food and agricultural scientists, biotech companies, extension workers, food processors, goat enthusiasts, meat goat producers, and consumers

V(E). Planned Program (Outputs)

1. Standard output measures

2009	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Plan	0	100	0	0
Actual	0	0	0	0

2. Number of Patent Applications Submitted (Standard Research Output)

Patent Applications Submitted

Year: 2009
Plan: 0
Actual: 0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2009	Extension	Research	Total

Plan	0	4	
Actual	0	5	5

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Number of significant publications including articles, bulletins and extension publications. (excluding peer reviewed)

Year	Target	Actual
2009	1	6

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	Number of research experiments completed on dairy goat products development, food quality and economic evaluation.
2	Number of invited presentations by faculty as a direct result of the success of this program.

Outcome #1

1. Outcome Measures

Number of research experiments completed on dairy goat products development, food quality and economic evaluation.

Not Reporting on this Outcome Measure

Outcome #2

1. Outcome Measures

Number of invited presentations by faculty as a direct result of the success of this program.

2. Associated Institution Types

- 1862 Extension
- 1890 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	{No Data Entered}	3

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
303	Genetic Improvement of Animals
304	Animal Genome
305	Animal Physiological Processes
306	Environmental Stress in Animals
307	Animal Management Systems
308	Improved Animal Products (Before Harvest)
502	New and Improved Food Products
601	Economics of Agricultural Production and Farm Management
604	Marketing and Distribution Practices
607	Consumer Economics
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally

Occurring Toxins

V(H). Planned Program (External Factors)

External factors which affected outcomes

- Economy
- Government Regulations
- Populations changes (immigration, new cultural groupings, etc.)

Brief Explanation

Natural disasters may affect the health and well-being of experimental animals, which may jeopardize the outcome of the studies.
Changes in Government regulations regarding preharvest management of animals may affect the progress of the studies.
Since chevon is popular among the immigrant populations, any change in Government immigration policies may negatively affect the assumptions of the program."
Lack of farmers willingness to participate in the project would impact success.

V(I). Planned Program (Evaluation Studies and Data Collection)

1. Evaluation Studies Planned

- Retrospective (post program)
- Before-After (before and after program)
- During (during program)

Evaluation Results

{No Data Entered}

Key Items of Evaluation

{No Data Entered}

V(A). Planned Program (Summary)

Program # 11

1. Name of the Planned Program

New Product Development / Genomics and Cultivar Development

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
201	Plant Genome, Genetics, and Genetic Mechanisms	40%	0%	33%	0%
202	Plant Genetic Resources	60%	0%	24%	0%
203	Plant Biological Efficiency and Abiotic Stresses Affecting Plants	0%	0%	7%	0%
204	Plant Product Quality and Utility (Preharvest)	0%	0%	8%	0%
205	Plant Management Systems	0%	0%	3%	0%
206	Basic Plant Biology	0%	0%	4%	0%
212	Pathogens and Nematodes Affecting Plants	0%	0%	4%	0%
502	New and Improved Food Products	0%	0%	17%	0%
	Total	100%	0%	100%	0%

V(C). Planned Program (Inputs)

1. Actual amount of professional FTE/SYs expended this Program

Year: 2009	Extension		Research	
	1862	1890	1862	1890
Plan	0.0	0.0	7.0	0.0
Actual	0.2	0.0	10.5	0.0

2. Actual dollars expended in this Program (includes Carryover Funds from previous years)

Extension		Research	
Smith-Lever 3b & 3c	**1890 Extension**	**Hatch**	**Evans-Allen**
14113	0	1030452	0
1862 Matching	**1890 Matching**	**1862 Matching**	**1890 Matching**
14113	0	1030452	0
1862 All Other	**1890 All Other**	**1862 All Other**	**1890 All Other**
0	0	0	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

1) Conducted basic and applied research to understand the genetics of traits of agronomic importance and the performance of potential genotypes under field conditions, with an emphasis on crops/plants of current or potential importance to Georgia. Yield, quality, and growth parameters were recorded for multiple replicates of 20 cultivars and selections. Results were given to growers in field days and at the Southeastern Pecan Growers Annual Meeting. Two new grower selections have been obtained for trial. Generated more than 2000 new plant seedlings. Made more than 100 new plant selections. Evaluated more than 300 advanced blueberry selections. Released a new southern highbush cultivar.

Following are the topic areas covered: Cereal breeding/genetics/genomics, Comparative grass genomics, Crop genomics, Cotton breeding/genetics/genomics, Forage breeding/genetics/genomics, Legume transgenics, Peanut breeding/genetics/genomics, Soybean breeding/genetics/genomics, Sunflower and specialty oil breeding/genetics/genomics, and Turfgrass breeding/genetics/genomics.

2) Developed new cultivars, with emphasis on plants of current or potential importance to Georgia, which manifest improved performance or manifest value-added traits. In pecan cultivar development, one cultivar, 'Byrd', has been submitted and accepted for release.

2. Brief description of the target audience

Ornamental plant and breeders and industry, pecan growers, and academic scientists.

V(E). Planned Program (Outputs)

1. Standard output measures

2009	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Plan	0	0	0	0
Actual	0	0	0	0

2. Number of Patent Applications Submitted (Standard Research Output)
Patent Applications Submitted

Year: 2009
Plan: 11
Actual: 7

Patents listed
Gailladia 'Georgia Yellow', 'Georgia Sunset'

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2009	Extension	Research	Total
Plan	0	45	
Actual	177	0	177

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Number of significant publications including referred articles, bulletins and extension publications.

(excluding peer reviewed articles)

Year	Target	Actual
2009	5	46

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	Release of new cultivars or germplasms
2	Number of invited presentations by faculty as a direct result of the success of this program.

Outcome #1

1. Outcome Measures

Release of new cultivars or germplasms

Not Reporting on this Outcome Measure

Outcome #2

1. Outcome Measures

Number of invited presentations by faculty as a direct result of the success of this program.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	{No Data Entered}	46

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
201	Plant Genome, Genetics, and Genetic Mechanisms
202	Plant Genetic Resources
203	Plant Biological Efficiency and Abiotic Stresses Affecting Plants
204	Plant Product Quality and Utility (Preharvest)
205	Plant Management Systems
206	Basic Plant Biology
212	Pathogens and Nematodes Affecting Plants
502	New and Improved Food Products

V(H). Planned Program (External Factors)

External factors which affected outcomes

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

Brief Explanation

Hurricanes or other extreme weather events could damage the trial orchard making the collection of data unattainable.
If other components of our research take on a more important role, this research could be scaled back.
Poor economy could limit blueberry acreage development in Georgia.
Extensive field trials are required to deliver new cultivars. Anything that destroys crops in the field could lead to delays in the target goals. In addition, the underlying basic research is resource-intensive. Anything that decreases the availability of resources (e.g., budget cuts due to economic downturns or competing public priorities) or government regulations that complicate the deployment of new cultivars (e.g., on the use of GMOs) can delay progress.
Ornamental horticulture is very much dependent on national economy.

V(I). Planned Program (Evaluation Studies and Data Collection)

1. Evaluation Studies Planned

- During (during program)

Evaluation Results

{No Data Entered}

Key Items of Evaluation

{No Data Entered}

V(A). Planned Program (Summary)

Program # 12

1. Name of the Planned Program

Poultry Production and Protection

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
133	Pollution Prevention and Mitigation	17%	0%	30%	0%
141	Air Resource Protection and Management	8%	0%	0%	0%
301	Reproductive Performance of Animals	12%	0%	10%	0%
305	Animal Physiological Processes	3%	0%	0%	0%
306	Environmental Stress in Animals	3%	0%	0%	0%
307	Animal Management Systems	13%	0%	0%	0%
311	Animal Diseases	17%	0%	30%	0%
315	Animal Welfare/Well-Being and Protection	3%	0%	0%	0%
403	Waste Disposal, Recycling, and Reuse	8%	0%	0%	0%
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins	16%	0%	30%	0%
	Total	100%	0%	100%	0%

V(C). Planned Program (Inputs)

1. Actual amount of professional FTE/SYs expended this Program

Year: 2009	Extension		Research	
	1862	1890	1862	1890
Plan	4.0	0.0	2.0	0.0
Actual	4.0	0.0	1.0	0.0

2. Actual dollars expended in this Program (includes Carryover Funds from previous years)

Extension		Research	
Smith-Lever 3b & 3c	**1890 Extension**	**Hatch**	**Evans-Allen**
331757	0	98138	0
1862 Matching	**1890 Matching**	**1862 Matching**	**1890 Matching**
331757	0	98138	0
1862 All Other	**1890 All Other**	**1862 All Other**	**1890 All Other**
0	0	0	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

Field research was conducted to develop improved energy efficiency techniques. Educational meetings were conducted with poultry farmers and poultry industry representatives. Educational materials concerning energy efficiency and conservation were prepared to distribute directly to every poultry producer in Georgia.

Additional work was done this year validating ammonia emissions from broiler farms during cooler weather. Ammonia emissions were found to be less than had been previously reported in the literature. We are becoming more confident in emission measurements and thus in assisting broiler farmers in more accurately estimating their emission rates.

Field research under commercial conditions and educational programs were conducted to demonstrate the benefits of using attic inlets.

Educational meetings about bird health were conducted with poultry farmers and poultry industry representatives.

Educational materials were prepared to be distribute directly to every poultry producer in Georgia. Mass media information was prepared to educate the public about the risk, or lack thereof, of avian influenza and human health.

Research on phytate phosphorous and phytase enzyme was conducted. Through research, faculty will develop management methods to improve egg production, fertility and hatchability. New information on management methods will be extended to the Georgia poultry industry.

2. Brief description of the target audience

The target audience of this planned program includes county extension agents, poultry producers, and poultry company professionals.

V(E). Planned Program (Outputs)

1. Standard output measures

2009	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Plan	200	1200	200	0
Actual	1071	36097	50	0

2. Number of Patent Applications Submitted (Standard Research Output)

Patent Applications Submitted

Year: 2009

Plan: 0

Actual: 0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2009	Extension	Research	Total
Plan	3	3	
Actual	5	0	5

V(F). State Defined Outputs

Output Target

Output #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.

Year	Target	Actual
2009	10	13

Output #2

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.

Year	Target	Actual
2009	50	41

Output #3

Output Measure

- Number of significant publications including referred journals articles, bulletins and extension publications.

Year	Target	Actual
2009	20	20

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	Percentage of program participants reporting increased knowledge after program participation.
2	Percentage of program participants who indicated a plan to adopt one or more of the practices recommended in this program.
3	Number of invited presentations by faculty as a direct result of the success of this program.
4	Farm gate value of poultry production in Georgia. Value reported annually in millions of dollars.
5	Depopulating small poultry flocks

Outcome #1

1. Outcome Measures

Percentage of program participants reporting increased knowledge after program participation.

Not Reporting on this Outcome Measure

Outcome #2

1. Outcome Measures

Percentage of program participants who indicated a plan to adopt one or more of the practices recommended in this program.

Not Reporting on this Outcome Measure

Outcome #3

1. Outcome Measures

Number of invited presentations by faculty as a direct result of the success of this program.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	4	11

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
133	Pollution Prevention and Mitigation
141	Air Resource Protection and Management
301	Reproductive Performance of Animals
305	Animal Physiological Processes

306	Environmental Stress in Animals
307	Animal Management Systems
311	Animal Diseases
315	Animal Welfare/Well-Being and Protection
403	Waste Disposal, Recycling, and Reuse
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins

Outcome #4

1. Outcome Measures

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

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	5039	5651

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
301	Reproductive Performance of Animals
305	Animal Physiological Processes
307	Animal Management Systems
311	Animal Diseases
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins

Outcome #5

1. Outcome Measures

Depopulating small poultry flocks

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	{No Data Entered}	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
The appearance of bird flu, caused by an H5N1 avian influenza virus that is highly pathogenic to poultry, may be the first step in the development of a contagious and deadly human virus strain capable of spreading worldwide.

What has been done
With the large size of the poultry industry and the heavy concentration of poultry farms in poultry growing areas, even a non-zoonotic disease agent could spread quickly to huge numbers of birds, causing massive poultry mortality, curtailed production of poultry products, suppressed market demand, and trade bans imposed by other nations. A poultry scientist developed a modified atmosphere killing (MAK) chamber mounted on a trailer. Trailers of this design could be warehoused at strategic locations to provide a rapid response to disease outbreaks in predetermined regions. The MAK cart is now commercially marketed and has been endorsed by the United Egg Producers for humane on-farm depopulation of flocks as part of routine flock replacement. The basic criteria for the MAK trailer were that it be road-worthy at highway speeds, easy to wash down and sanitize inside and out, large enough to hold most small flocks in one load (e.g., 250-400 chickens), easy to load, capable of fast and effective euthanasia, and allow easy carcass removal at the disposal location.

Results
The MAK trailer was field tested successfully at two commercial laying hen farms and at the Poultry Research Center with a turkey flock. The leader of the state of Georgia's multi-agency/multidisciplinary Avian Influenza Response Team has recently inspected the MAK trailer and has requested its use for depopulation of small flocks in disease control events in the state as the need arises.

4. Associated Knowledge Areas

KA Code	Knowledge Area
307	Animal Management Systems
311	Animal Diseases
315	Animal Welfare/Well-Being and Protection

V(H). Planned Program (External Factors)

External factors which affected outcomes

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

Brief Explanation

EPA regulations may change that would require the outcomes to be modified.
Resources to address this problem have been difficult to obtain. Increased cost of poultry house bedding materials is also a factor that has affected the time between litter removal from poultry houses and thus P concentrations in poultry litter. Cost of bedding promotes extended use within poultry houses, reducing land application of P.
Poultry specialists are being spread very thin due to demands from clients and decreased numbers of specialists. Other priorities may take time away from this important program.
If AI turns out to be a non issue, priorities will be redirected as appropriate. Biosecurity concerns may limit meetings where poultry producers would come into contact with other poultry producers.

V(I). Planned Program (Evaluation Studies and Data Collection)

1. Evaluation Studies Planned

- After Only (post program)
- During (during program)
- Case Study

Evaluation Results

{No Data Entered}

Key Items of Evaluation

{No Data Entered}

V(A). Planned Program (Summary)

Program # 13

1. Name of the Planned Program

Plant Production and Protection

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
102	Soil, Plant, Water, Nutrient Relationships	3%	0%	0%	0%
111	Conservation and Efficient Use of Water	0%	0%	1%	0%
124	Urban Forestry	0%	0%	4%	0%
136	Conservation of Biological Diversity	0%	0%	4%	0%
201	Plant Genome, Genetics, and Genetic Mechanisms	0%	0%	6%	0%
202	Plant Genetic Resources	2%	0%	1%	0%
203	Plant Biological Efficiency and Abiotic Stresses Affecting Plants	0%	0%	9%	0%
204	Plant Product Quality and Utility (Preharvest)	8%	0%	3%	0%
205	Plant Management Systems	12%	0%	0%	0%
206	Basic Plant Biology	1%	0%	6%	0%
211	Insects, Mites, and Other Arthropods Affecting Plants	4%	0%	3%	0%
212	Pathogens and Nematodes Affecting Plants	41%	0%	47%	0%
213	Weeds Affecting Plants	9%	0%	0%	0%
215	Biological Control of Pests Affecting Plants	0%	0%	7%	0%
216	Integrated Pest Management Systems	18%	0%	7%	0%
403	Waste Disposal, Recycling, and Reuse	0%	0%	1%	0%
721	Insects and Other Pests Affecting Humans	0%	0%	1%	0%
903	Communication, Education, and Information Delivery	2%	0%	0%	0%
	Total	100%	0%	100%	0%

V(C). Planned Program (Inputs)

1. Actual amount of professional FTE/SYs expended this Program

Year: 2009	Extension		Research	
	1862	1890	1862	1890
Plan	16.0	0.0	12.0	0.3
Actual	16.2	0.0	8.9	0.0

2. Actual dollars expended in this Program (includes Carryover Funds from previous years)

Extension		Research	
Smith-Lever 3b & 3c	**1890 Extension**	**Hatch**	**Evans-Allen**
1348453	0	877749	0
1862 Matching	**1890 Matching**	**1862 Matching**	**1890 Matching**
1348453	0	877749	0
1862 All Other	**1890 All Other**	**1862 All Other**	**1890 All Other**
0	0	0	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

Publications in the form of journal articles, station bulletins and extension publications were written. In addition, oral and poster presentations were made at scientific conferences. Oral presentations, field displays and written reports were made to growers and other stakeholders at county meetings, statewide field days, and at commodity meetings.

Research projects were carried out in the laboratory, the greenhouse, on experimental farms, and in collaboration with commercial producers. Findings were published in the peer-reviewed literature and presented at scientific congresses and regional producer-oriented meetings. In collaboration with extension faculty, new management guidelines were developed, evaluated and disseminated.

In this program, specialists disseminated information on new procedures and technologies through education classes to agents and select clientele, and provided information to be disseminated by county extension agents to media outlets.

2. Brief description of the target audience

Greenhouse operators, farmers, commercial producers, county extension agents, seed companies, chemical companies, turfgrass professionals, landscapers, Agri-Businessmen, consultants, scientists, fertilizer companies, K-12 teachers, utility companies, private landowners, state and federal land management and conservation agencies

V(E). Planned Program (Outputs)

1. Standard output measures

2009	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Plan	10000	50000	0	0
Actual	10523	36097	315	600

2. Number of Patent Applications Submitted (Standard Research Output)

Patent Applications Submitted

Year: 2009
Plan: 5
Actual: 3

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2009	Extension	Research	Total
Plan	100	100	
Actual	132	58	190

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Number of significant publications including referred articles, bulletins and extension publications. (excluding peer reviewed articles)

Year	Target	Actual
2009	30	318

Output #2

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.

Year	Target	Actual
2009	1200	528

Output #3

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.

Year	Target	Actual
2009	2300	644

Output #4

Output Measure

- Number of disease samples processed by diagnostic laboratory.

Year	Target	Actual
2009	2500	1876

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

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	Number of invited presentations by faculty as a direct result of the success of this program.
3	Number of Master Gardener certifications granted through this program.
4	Farm gate value of row and forage crops in Georgia. Reported annually in millions of dollars.
5	Farm gate value of fruit and nut crops in Georgia. Reported annually in millions of dollars.
6	Farm gate value of vegetable crops in Georgia. Reported annually in millions of dollars.
7	Farm gate value of ornamental horticulture crops in Georgia. Reported annually in millions of dollars.
8	Testing new biorational nematicide products

Outcome #1

1. Outcome Measures

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. Associated Institution Types

- 1862 Extension
- 1862 Research
- 1890 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	120000	153055

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
102	Soil, Plant, Water, Nutrient Relationships
203	Plant Biological Efficiency and Abiotic Stresses Affecting Plants
204	Plant Product Quality and Utility (Preharvest)
205	Plant Management Systems
206	Basic Plant Biology
211	Insects, Mites, and Other Arthropods Affecting Plants
212	Pathogens and Nematodes Affecting Plants
213	Weeds Affecting Plants
215	Biological Control of Pests Affecting Plants
216	Integrated Pest Management Systems

Outcome #2

1. Outcome Measures

Number of invited presentations by faculty as a direct result of the success of this program.

2. Associated Institution Types

- 1862 Extension
- 1890 Extension
- 1890 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	20	97

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
102	Soil, Plant, Water, Nutrient Relationships
111	Conservation and Efficient Use of Water
124	Urban Forestry
136	Conservation of Biological Diversity
201	Plant Genome, Genetics, and Genetic Mechanisms
202	Plant Genetic Resources
203	Plant Biological Efficiency and Abiotic Stresses Affecting Plants
204	Plant Product Quality and Utility (Preharvest)
205	Plant Management Systems
206	Basic Plant Biology
211	Insects, Mites, and Other Arthropods Affecting Plants
212	Pathogens and Nematodes Affecting Plants
213	Weeds Affecting Plants
215	Biological Control of Pests Affecting Plants
216	Integrated Pest Management Systems
403	Waste Disposal, Recycling, and Reuse

721	Insects and Other Pests Affecting Humans
903	Communication, Education, and Information Delivery

Outcome #3

1. Outcome Measures

Number of Master Gardener certifications granted through this program.

2. Associated Institution Types

- 1862 Extension
- 1890 Extension
- 1890 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	600	644

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
102	Soil, Plant, Water, Nutrient Relationships
111	Conservation and Efficient Use of Water
203	Plant Biological Efficiency and Abiotic Stresses Affecting Plants
204	Plant Product Quality and Utility (Preharvest)
205	Plant Management Systems
206	Basic Plant Biology
211	Insects, Mites, and Other Arthropods Affecting Plants
212	Pathogens and Nematodes Affecting Plants
213	Weeds Affecting Plants
215	Biological Control of Pests Affecting Plants
216	Integrated Pest Management Systems
403	Waste Disposal, Recycling, and Reuse

Outcome #4

1. Outcome Measures

Farm gate value of row and forage crops in Georgia. Reported annually in millions of dollars.

2. Associated Institution Types

- 1862 Extension
- 1890 Extension
- 1890 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	1845	2010

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
102	Soil, Plant, Water, Nutrient Relationships
203	Plant Biological Efficiency and Abiotic Stresses Affecting Plants
204	Plant Product Quality and Utility (Preharvest)
205	Plant Management Systems
206	Basic Plant Biology
211	Insects, Mites, and Other Arthropods Affecting Plants
212	Pathogens and Nematodes Affecting Plants
213	Weeds Affecting Plants
215	Biological Control of Pests Affecting Plants
216	Integrated Pest Management Systems

Outcome #5

1. Outcome Measures

Farm gate value of fruit and nut crops in Georgia. Reported annually in millions of dollars.

2. Associated Institution Types

- 1862 Extension
- 1890 Extension
- 1890 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	240	268

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
102	Soil, Plant, Water, Nutrient Relationships
203	Plant Biological Efficiency and Abiotic Stresses Affecting Plants
204	Plant Product Quality and Utility (Preharvest)
205	Plant Management Systems
206	Basic Plant Biology
211	Insects, Mites, and Other Arthropods Affecting Plants
212	Pathogens and Nematodes Affecting Plants
213	Weeds Affecting Plants
215	Biological Control of Pests Affecting Plants
216	Integrated Pest Management Systems

Outcome #6

1. Outcome Measures

Farm gate value of vegetable crops in Georgia. Reported annually in millions of dollars.

2. Associated Institution Types

- 1862 Extension
- 1890 Extension
- 1890 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	769	849

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
102	Soil, Plant, Water, Nutrient Relationships
203	Plant Biological Efficiency and Abiotic Stresses Affecting Plants
204	Plant Product Quality and Utility (Preharvest)
205	Plant Management Systems
206	Basic Plant Biology
211	Insects, Mites, and Other Arthropods Affecting Plants
212	Pathogens and Nematodes Affecting Plants
213	Weeds Affecting Plants
215	Biological Control of Pests Affecting Plants
216	Integrated Pest Management Systems

Outcome #7

1. Outcome Measures

Farm gate value of ornamental horticulture crops in Georgia. Reported annually in millions of dollars.

2. Associated Institution Types

- 1862 Extension
- 1890 Extension
- 1890 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	695	696

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
102	Soil, Plant, Water, Nutrient Relationships
203	Plant Biological Efficiency and Abiotic Stresses Affecting Plants
204	Plant Product Quality and Utility (Preharvest)
205	Plant Management Systems
206	Basic Plant Biology
211	Insects, Mites, and Other Arthropods Affecting Plants
212	Pathogens and Nematodes Affecting Plants
213	Weeds Affecting Plants
215	Biological Control of Pests Affecting Plants
216	Integrated Pest Management Systems

Outcome #8

1. Outcome Measures

Testing new biorational nematicide products

2. Associated Institution Types

- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	{No Data Entered}	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
Plant-parasitic nematodes are found in most agricultural soils and often cause crop damage and economic losses to growers. Few effective nematicides are available to growers, due to health and environmental concerns for the traditional chemistries used in existing products.

What has been done
A class of microbes known as fungi commonly inhabit soils, and are known to produce a wide range of antibiotic compounds. Compounds derived from fungi are biologically-based and may be safer than existing non-biological pesticide formulations. Plant pathologists have systematically collected fungal isolates from grower fields in Georgia and evaluated those fungi for production of nematicidal compounds. After extensive testing in the lab and in greenhouse pots, several products have been selected for evaluation in the field.

Results
In 2009, they expanded their real-world trials to four sites spread across the cotton growing areas in Georgia to test new biorational nematicide products. The trial products were shown to be effective for control of nematodes in cotton. During the 2009 growing season, they also measured higher cotton yields in plots treated with the biorational nematicide.

4. Associated Knowledge Areas

KA Code	Knowledge Area
212	Pathogens and Nematodes Affecting Plants
215	Biological Control of Pests Affecting Plants

V(H). Planned Program (External Factors)

External factors which affected outcomes

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

Brief Explanation

Field work is always subject to disastrous outcomes from weather extremes. In the case with plant diseases, weather not only impacts the plant and its physical environment but also impacts pathogens, vectors, and the interaction of the pests with the plant.
Changes in the economy and public policy changes could impact the degree of difficulty in obtaining extramural funding.
Changes in programmatic priorities always can influence the long-term research plan. For example the introduction of a new and unexpected disease could force us to move time and resources away from the project to the new threat."
Outcomes, specifically number of peer-reviewed manuscripts, will be dependent on available resources (money, people) to conduct the work.
Economic condition of the overall Georgia economy has and will have an impact on our ability to meet outcome expectations. State revenue is critical for funding University activities. Although there are no foreseeable changes in this priority area, they may change. This industry relies on foreign migrant labor, which may become problematic or impossible to obtain. Natural disasters could result in crop failure, but is unlikely to result in long term (>2 years) disruption.
Anything that affects available funding and the number of students interested in my program will negatively impact outcomes.
The availability of naturally infected seedlots might limit the ability to complete some aspects of this research. The availability of infected seeds is dependent on environmental conditions and the willingness of seed companies to share materials,
The availability of suitable laboratories to conduct evaluations of the new seed health assays may prevent the evaluation of the precision and accuracy of new seed health assays..
Currently P. ramorum is a federally regulated pathogen. If the pathogen is deregulated, interest and fear of the pathogen may be significantly reduced and projected program activities and goal may not be met. The industry is supportive of a P. ramorum certification program as they see it as a means to stay competitive nationally in sales and production. If the pathogen is deregulated, there may be no need for a certification program, as well as if the economy stagnates, then the industry could no longer financially support such a program.
Grower and program interest will affect funding opportunities and applicability of the proposed research.

V(I). Planned Program (Evaluation Studies and Data Collection)

1. Evaluation Studies Planned

- After Only (post program)
- Before-After (before and after program)
- Time series (multiple points before and after program)
- Case Study

Evaluation Results

{No Data Entered}

Key Items of Evaluation

{No Data Entered}

V(A). Planned Program (Summary)

Program # 14

1. Name of the Planned Program

Quality Caregiving for Children and Youth

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%	10%	0%	0%
802	Human Development and Family Well-Being	100%	45%	0%	0%
803	Sociological and Technological Change Affecting Individuals, Families, and Communities	0%	10%	0%	0%
805	Community Institutions, Health, and Social Services	0%	10%	0%	0%
806	Youth Development	0%	25%	0%	0%
	Total	100%	100%	0%	0%

V(C). Planned Program (Inputs)

1. Actual amount of professional FTE/SYs expended this Program

Year: 2009	Extension		Research	
	1862	1890	1862	1890
Plan	2.0	1.0	0.0	0.0
Actual	4.5	2.0	0.0	0.0

2. Actual dollars expended in this Program (includes Carryover Funds from previous years)

Extension		Research	
Smith-Lever 3b & 3c	**1890 Extension**	**Hatch**	**Evans-Allen**
376075	660362	0	0
1862 Matching	**1890 Matching**	**1862 Matching**	**1890 Matching**
376075	660362	0	0
1862 All Other	**1890 All Other**	**1862 All Other**	**1890 All Other**
0	0	0	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

The planned program offered various programs on enhancing parenting/caregiving skills and provided information on health, home maintenance and community services. The program also offered conferences for senior citizens, childcare providers and youth. The family life program worked with other local, state and federal programs to disseminate information to the public.

The planned program disseminated parenting fact sheets, age-paced newsletters, and information on early brain

development, provided parenting and child care provider education classes to agents and to select clientele based on identified needs. It also provided information to be disseminated by agents to print and broadcast media outlets. Topics included but were not limited to: early brain development, Just-in-time parenting, and parenting skills to Georgia inmates.

2. Brief description of the target 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(E). Planned Program (Outputs)

1. Standard output measures

2009	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Plan	180	250	250	50
Actual	934	1392	1120	372

2. Number of Patent Applications Submitted (Standard Research Output)
Patent Applications Submitted

Year: 2009
Plan: 0
Actual: 0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2009	Extension	Research	Total
Plan	2	0	
Actual	4	0	4

V(F). State Defined Outputs

Output Target

Output #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.

Year	Target	Actual
2009	150	286

Output #2

Output Measure

- Number of significant publications including referred journals articles, bulletins and extension publications.

Year	Target	Actual
2009	1	17

Output #3

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.

Year	Target	Actual
2009	{No Data Entered}	253

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	Percentage of program participants reporting increased knowledge after program participation.
2	Percentage of program participants who indicated a plan to adopt one or more of the practices recommended in this program.
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 planned program.
4	Number of invited presentations by faculty as a direct result of the success of this program.

Outcome #1

1. Outcome Measures

Percentage of program participants reporting increased knowledge after program participation.

2. Associated Institution Types

- 1862 Extension
- 1890 Extension
- 1890 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	75	98

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
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

Outcome #2

1. Outcome Measures

Percentage of program participants who indicated a plan to adopt one or more of the practices recommended in this program.

2. Associated Institution Types

- 1862 Extension
- 1890 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	65	70

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
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

Outcome #3

1. Outcome Measures

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. Associated Institution Types

- 1862 Extension
- 1890 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	15000	24580

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
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

Outcome #4

1. Outcome Measures

Number of invited presentations by faculty as a direct result of the success of this program.

2. Associated Institution Types

- 1862 Extension
- 1890 Extension
- 1890 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	{No Data Entered}	13

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
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

V(H). Planned Program (External Factors)

External factors which affected outcomes

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

Brief Explanation

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(I). Planned Program (Evaluation Studies and Data Collection)

1. Evaluation Studies Planned

- After Only (post program)
- Before-After (before and after program)
- Comparisons between program participants (individuals, group, organizations) and non-participants

Evaluation Results

{No Data Entered}

Key Items of Evaluation

{No Data Entered}

V(A). Planned Program (Summary)

Program # 15

1. Name of the Planned Program

Sustainability and Profitability of Agriculture

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
102	Soil, Plant, Water, Nutrient Relationships	0%	0%	0%	40%
123	Management and Sustainability of Forest Resources	0%	50%	0%	0%
133	Pollution Prevention and Mitigation	2%	0%	45%	0%
205	Plant Management Systems	0%	0%	0%	60%
211	Insects, Mites, and Other Arthropods Affecting Plants	7%	0%	0%	0%
215	Biological Control of Pests Affecting Plants	3%	0%	0%	0%
216	Integrated Pest Management Systems	9%	0%	0%	0%
301	Reproductive Performance of Animals	0%	0%	11%	0%
311	Animal Diseases	1%	0%	0%	0%
512	Quality Maintenance in Storing and Marketing Non-Food Products	12%	0%	0%	0%
601	Economics of Agricultural Production and Farm Management	8%	50%	0%	0%
602	Business Management, Finance, and Taxation	8%	0%	0%	0%
603	Market Economics	3%	0%	0%	0%
604	Marketing and Distribution Practices	6%	0%	0%	0%
608	Community Resource Planning and Development	3%	0%	0%	0%
610	Domestic Policy Analysis	2%	0%	0%	0%
611	Foreign Policy and Programs	1%	0%	0%	0%
802	Human Development and Family Well-Being	1%	0%	0%	0%
902	Administration of Projects and Programs	17%	0%	0%	0%
903	Communication, Education, and Information Delivery	17%	0%	44%	0%
	Total	100%	100%	100%	100%

V(C). Planned Program (Inputs)

1. Actual amount of professional FTE/SYs expended this Program

Year: 2009	Extension		Research	
	1862	1890	1862	1890
Plan	12.0	0.9	4.0	9.5
Actual	15.4	0.5	13.1	1.5

2. Actual dollars expended in this Program (includes Carryover Funds from previous years)

Extension		Research	
Smith-Lever 3b & 3c	**1890 Extension**	**Hatch**	**Evans-Allen**
1280822	66036	1285612	476640
1862 Matching	**1890 Matching**	**1862 Matching**	**1890 Matching**
1280822	66036	1285612	476640
1862 All Other	**1890 All Other**	**1862 All Other**	**1890 All Other**
0	0	0	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

Faculty analyzed specific management strategies, improved financial accounting and reporting systems, examined the impacts of change in farm structure and public policies.

Faculty investigated alternate cultural practices that will protect, improve and maintain soil fertility required for sustainable crop production. Minimum tillage and cover crops was tested as alternatives to conventional tillage and commercial fertilizers.

The Center for Urban Agriculture identified and addressed issues concerning agriculture that evolve within the urban community. They investigated issues and formed collaborations of faculty to address the issues; conducted annual Urban Extension Conference for faculty.

Faculty investigated and disseminated information on value-added products or production practices that can improve sustainability and profitability.

Apiculture research is ongoing with collaborators throughout the US in integrating IPM practices and development of thresholds. Pollination studies were conducted in blue berries production operations. Breeding for resistance to pests was continued as well. Faculty will investigate niche markets. An example will be the development of a niche market in Georgia for goat meat.

Some faculty worked on specialty plants with medicinal, nutrceutical and biofuel values.

Research and extension programs in insect pest management were carried out in all major commodity areas, and with insects affecting human and animal health to include vector biology work with mosquitoes and related vector species. A new program initiative in plant vector biology was established in 2009. Faculty provided educational information, training materials and resources to county extension agents used in their county programs. As research faculty developed new products, new technology and better management practices, the communication and understanding of this information becomes a critical component of future sustainability.

2. Brief description of the target audience

The target audience for this program includes all areas of agriculture including greenhouse operators, growers, farmers, livestock producers, county extension agents, seed companies, chemical companies, industry representatives, beekeepers and those that treat bee stings, turfgrass professionals; as well as homeowners, public officials, and the general public.

V(E). Planned Program (Outputs)

1. Standard output measures

2009	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Plan	6000	1000000	0	0
Actual	18787	2856820	350	8100

2. Number of Patent Applications Submitted (Standard Research Output)
Patent Applications Submitted

Year: 2009
Plan: 0
Actual: 0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2009	Extension	Research	Total
Plan	6	6	
Actual	53	0	53

V(F). State Defined Outputs

Output Target

Output #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.

Year	Target	Actual
2009	6000	4946

Output #2

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.

Year	Target	Actual
2009	1400	569

Output #3

Output Measure

- Number of significant publications including articles, bulletins and extension publications. (excluding refereed articles)

Year	Target	Actual

2009	10	167

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	Percentage of program participants reporting increased knowledge after program participation.
2	Percentage of program participants responding to follow-up survey that have adopt one or more of the practices recommended in this program.
3	Percentage of program participants responding to survey that indicated an increase in income using information from this program.
4	Number of invited presentations by faculty as a direct result of the success of this program.

Outcome #1

1. Outcome Measures

Percentage of program participants reporting increased knowledge after program participation.

2. Associated Institution Types

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

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	75	90

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
102	Soil, Plant, Water, Nutrient Relationships
133	Pollution Prevention and Mitigation
205	Plant Management Systems
301	Reproductive Performance of Animals
311	Animal Diseases
601	Economics of Agricultural Production and Farm Management
602	Business Management, Finance, and Taxation
603	Market Economics
604	Marketing and Distribution Practices
610	Domestic Policy Analysis
611	Foreign Policy and Programs

Outcome #2

1. Outcome Measures

Percentage of program participants responding to follow-up survey that have adopt one or more of the practices recommended in this program.

Not Reporting on this Outcome Measure

Outcome #3

1. Outcome Measures

Percentage of program participants responding to survey that indicated an increase in income using information from this program.

Not Reporting on this Outcome Measure

Outcome #4

1. Outcome Measures

Number of invited presentations by faculty as a direct result of the success of this program.

2. Associated Institution Types

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

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	{No Data Entered}	92

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
102	Soil, Plant, Water, Nutrient Relationships
123	Management and Sustainability of Forest Resources

133	Pollution Prevention and Mitigation
205	Plant Management Systems
211	Insects, Mites, and Other Arthropods Affecting Plants
215	Biological Control of Pests Affecting Plants
216	Integrated Pest Management Systems
301	Reproductive Performance of Animals
311	Animal Diseases
512	Quality Maintenance in Storing and Marketing Non-Food Products
601	Economics of Agricultural Production and Farm Management
602	Business Management, Finance, and Taxation
603	Market Economics
604	Marketing and Distribution Practices
608	Community Resource Planning and Development
610	Domestic Policy Analysis
611	Foreign Policy and Programs
802	Human Development and Family Well-Being
902	Administration of Projects and Programs
903	Communication, Education, and Information Delivery

V(H). Planned Program (External Factors)

External factors which affected outcomes

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

Brief Explanation

Agricultural production and ag research are subject to weather phenomena such as droughts, hurricanes, etc. These weather events can have a significant effect on program outcomes. U.S. farm bill revisions can also strongly impact the direction of agricultural programs, profitability and planted acres of specific crops. Urban agriculture is impacted by population changes, water regulations, etc. All of these factors and more may impact the direction of research and extension programming.
Economy impacts could include industry and college budget, farmers who are not able to secure operating capital, and prices of inputs and outputs impact profitability of production agriculture firms.

V(I). Planned Program (Evaluation Studies and Data Collection)

1. Evaluation Studies Planned

- After Only (post program)
- Case Study

Evaluation Results

{No Data Entered}

Key Items of Evaluation

{No Data Entered}

V(A). Planned Program (Summary)

Program # 16

1. Name of the Planned Program

Speciality Plants Technology

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
136	Conservation of Biological Diversity	0%	0%	0%	5%
201	Plant Genome, Genetics, and Genetic Mechanisms	0%	0%	0%	5%
203	Plant Biological Efficiency and Abiotic Stresses Affecting Plants	0%	0%	0%	20%
204	Plant Product Quality and Utility (Preharvest)	0%	0%	0%	15%
205	Plant Management Systems	0%	0%	0%	10%
206	Basic Plant Biology	0%	0%	0%	10%
511	New and Improved Non-Food Products and Processes	0%	0%	0%	10%
701	Nutrient Composition of Food	0%	0%	0%	5%
724	Healthy Lifestyle	0%	0%	0%	10%
903	Communication, Education, and Information Delivery	0%	0%	0%	10%
	Total	0%	0%	0%	100%

V(C). Planned Program (Inputs)

1. Actual amount of professional FTE/SYs expended this Program

Year: 2009	Extension		Research	
	1862	1890	1862	1890
Plan	0.0	0.0	0.0	2.0
Actual	0.0	0.0	0.0	2.0

2. Actual dollars expended in this Program (includes Carryover Funds from previous years)

Extension		Research	
Smith-Lever 3b & 3c	**1890 Extension**	**Hatch**	**Evans-Allen**
0	0	0	238320
1862 Matching	**1890 Matching**	**1862 Matching**	**1890 Matching**
0	0	0	238320
1862 All Other	**1890 All Other**	**1862 All Other**	**1890 All Other**
0	0	0	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

Medicinal, nutraceutical and bio-fuel plant species were studied for in vitro plant regeneration and genetic enhancement for value added traits. Medicinal and nutraceutical analyses and evaluations were carried out. New plant species were added. Genetic structure of Plant accessions was determined. Field planting of bio-fuel plant was established.

2. Brief description of the target audience

Specialty plants research scientists, growers, and industry

V(E). Planned Program (Outputs)

1. Standard output measures

2009	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Plan	0	0	0	0
Actual	0	0	0	0

2. Number of Patent Applications Submitted (Standard Research Output)

Patent Applications Submitted

Year: 2009
Plan: 1
Actual: 0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2009	Extension	Research	Total
Plan	0	2	
Actual	0	6	6

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Number of significant publications including articles, bulletins and extension publications. (excluding refereed articles)

Year	Target	Actual
2009	10	2

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	Number of invited presentations by faculty as a direct result of the success of this program.

Outcome #1

1. Outcome Measures

Number of invited presentations by faculty as a direct result of the success of this program.

2. Associated Institution Types

- 1890 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	{No Data Entered}	3

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
136	Conservation of Biological Diversity
201	Plant Genome, Genetics, and Genetic Mechanisms
203	Plant Biological Efficiency and Abiotic Stresses Affecting Plants
204	Plant Product Quality and Utility (Preharvest)
205	Plant Management Systems
206	Basic Plant Biology
511	New and Improved Non-Food Products and Processes
701	Nutrient Composition of Food
724	Healthy Lifestyle
903	Communication, Education, and Information Delivery

V(H). Planned Program (External Factors)

External factors which affected outcomes

- Economy
- Government Regulations
- Competing Public priorities

Brief Explanation

Natural disasters can disrupt research activities. Economic stress would hamper resource availability. Public policy changes may affect research direction. Government regulations may influence product usage. Competing public priorities can affect our funding. Competing programmatic challenges may change course of the research activities.

V(I). Planned Program (Evaluation Studies and Data Collection)

1. Evaluation Studies Planned

- Retrospective (post program)
- During (during program)

Evaluation Results

{No Data Entered}

Key Items of Evaluation

{No Data Entered}

V(A). Planned Program (Summary)

Program # 17

1. Name of the Planned Program

Technology Education for Seniors

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%
	Total	0%	100%	0%	0%

V(C). Planned Program (Inputs)

1. Actual amount of professional FTE/SYs expended this Program

Year: 2009	Extension		Research	
	1862	1890	1862	1890
Plan	0.0	1.0	0.0	0.0
Actual	{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}

2. Actual dollars expended in this Program (includes Carryover Funds from previous years)

Extension		Research	
Smith-Lever 3b & 3c	**1890 Extension**	**Hatch**	**Evans-Allen**
{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}
1862 Matching	**1890 Matching**	**1862 Matching**	**1890 Matching**
{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}
1862 All Other	**1890 All Other**	**1862 All Other**	**1890 All Other**
{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}	{NO DATA ENTERED}

V(D). Planned Program (Activity)

1. Brief description of the Activity

Surveys were done in Houston, Peach, Sumter, and Dougherty, and Colquitt County to identify need for IT training. Training courses offered included Introduction to the Internet, Introduction to MS Excel, Introduction to Quicken, Introduction to MS Word, Introduction to MS Publisher, Introduction to Digital Photography, and Introduction to Computers.

2. Brief description of the target 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(E). Planned Program (Outputs)

1. Standard output measures

2009	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Plan	50	500	0	0
Actual	328	672	480	425

2. Number of Patent Applications Submitted (Standard Research Output)
Patent Applications Submitted

Year: 2009
Plan: 0
Actual: 0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2009	Extension	Research	Total
Plan	1	0	
Actual	0	0	0

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Number of educational contact hours generated from formal programs.
  Not reporting on this Output for this Annual Report

Output #2

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.

Year	Target	Actual
2009	{No Data Entered}	820

Output #3

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.

Year	Target	Actual

2009	{No Data Entered}	8

Output #4

Output Measure

- Number of significant publications including referred articles, bulletins and extension publications. (excluding peer reviewed articles)

Year	Target	Actual
2009	{No Data Entered}	0

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	Percent of program participants will able to send and receive email at the completion of training
2	Number of program participants will able to send and receive email at the completion of training
3	Number of invited presentations by faculty as a direct result of the success of this program.

Outcome #1

1. Outcome Measures

Percent of program participants will able to send and receive email at the completion of training

Not Reporting on this Outcome Measure

Outcome #2

1. Outcome Measures

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

2. Associated Institution Types

- 1890 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	{No Data Entered}	620

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
802	Human Development and Family Well-Being
903	Communication, Education, and Information Delivery

Outcome #3

1. Outcome Measures

Number of invited presentations by faculty as a direct result of the success of this program.

2. Associated Institution Types

- 1890 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	{No Data Entered}	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
802	Human Development and Family Well-Being
903	Communication, Education, and Information Delivery

V(H). Planned Program (External Factors)

External factors which affected outcomes

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

Brief Explanation

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(I). Planned Program (Evaluation Studies and Data Collection)

1. Evaluation Studies Planned

- Retrospective (post program)
- Before-After (before and after program)
- During (during program)

Evaluation Results

{No Data Entered}

Key Items of Evaluation

{No Data Entered}

V(A). Planned Program (Summary)

Program # 18

1. Name of the Planned Program

Urban Agriculture

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
102	Soil, Plant, Water, Nutrient Relationships	4%	0%	0%	0%
111	Conservation and Efficient Use of Water	20%	0%	0%	0%
124	Urban Forestry	2%	0%	0%	0%
202	Plant Genetic Resources	0%	0%	100%	0%
206	Basic Plant Biology	2%	0%	0%	0%
212	Pathogens and Nematodes Affecting Plants	10%	0%	0%	0%
213	Weeds Affecting Plants	2%	0%	0%	0%
216	Integrated Pest Management Systems	10%	0%	0%	0%
404	Instrumentation and Control Systems	4%	0%	0%	0%
405	Drainage and Irrigation Systems and Facilities	4%	0%	0%	0%
601	Economics of Agricultural Production and Farm Management	6%	0%	0%	0%
602	Business Management, Finance, and Taxation	12%	0%	0%	0%
605	Natural Resource and Environmental Economics	16%	0%	0%	0%
609	Economic Theory and Methods	4%	0%	0%	0%
806	Youth Development	4%	0%	0%	0%
	Total	100%	0%	100%	0%

V(C). Planned Program (Inputs)

1. Actual amount of professional FTE/SYs expended this Program

Year: 2009	Extension		Research	
	1862	1890	1862	1890
Plan	4.0	0.0	1.0	0.0
Actual	4.7	0.0	0.1	0.0

2. Actual dollars expended in this Program (includes Carryover Funds from previous years)

Extension		Research	
Smith-Lever 3b & 3c	**1890 Extension**	**Hatch**	**Evans-Allen**
395511	0	12268	0
1862 Matching	**1890 Matching**	**1862 Matching**	**1890 Matching**
395511	0	12268	0
1862 All Other	**1890 All Other**	**1862 All Other**	**1890 All Other**
0	0	0	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

Research was published in research publications on topics such as obtaining inter-specific hybrids from crossing Hydrangea macrophylla to H. angustipetala. New information shared through the Extension education program. This program included a breeding program which incorporates variability derived from inter-specific 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 held 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 were written for the local area that support 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.

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

Partnerships and research collaborations with commercial companies and educational institutions were established to support the work of this program. Two software programs on cost estimating and job bidding were created and used in workshops for landscape professionals. HortScape is a cost estimator for landscape installation services, and Hort Management is a cost estimator for landscape management services. Three Green Industry groups are marketing the programs: the Georgia Green Industry Association, Metro Atlanta Landscape and Turf Association, and the Professional Grounds Management Society. In Georgia, the programs are being used to teach students at UGA, Lanier Technical College, Gwinnett Tech, and Griffin Tech. Instructors at NC State University and the University of Arkansas requested copies for use in their classrooms in 2008. In 2009, a major revision of Hort Management: Cost Estimator for Landscape Maintenance Services was done and released. All previous purchasers and workshop attendees were offered the revised version at no cost.

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

2. Brief description of the target audience

The target audience for this planned program includes urban agriculture industries professionals, public policy makers and regulators, greenhouse growers, golf course and sports field managers, sod producers, master gardeners, arborists, city foresters, county Extension faculty, homeowners, as well as the general public.

V(E). Planned Program (Outputs)

1. Standard output measures

2009	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Plan	3000	300000	600	1000
Actual	5054	33230	969	1897

2. Number of Patent Applications Submitted (Standard Research Output)
Patent Applications Submitted

Year: 2009
Plan: 0
Actual: 0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2009	Extension	Research	Total
Plan	14	1	
Actual	9	1	10

V(F). State Defined Outputs

Output Target

Output #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.

Year	Target	Actual
2009	350	940

Output #2

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.

Year	Target	Actual
2009	600	478

Output #3

Output Measure

- Number of significant publications including referred journals articles, bulletins and extension publications.

Year	Target	Actual
2009	5	29

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	Percentage of program participants reporting increased knowledge after program participation.
2	Percentage of program participants who indicated a plan to adopt one or more of the practices recommended in this program.
3	Number of invited presentations by faculty as a direct result of the success of this program.
4	Educate turfgrass producers and other industry professionals the disease etiology, epidemiology, and effective disease management strategies Improve their skills in diagnosis of turfgrass diseases Be able to identify the most prevalent turfgrass diseases and be able to implement the most effective control. Be able to implement a more judicious selection of fungicides for disease control
5	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.

Outcome #1

1. Outcome Measures

Percentage of program participants reporting increased knowledge after program participation.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	75	80

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
102	Soil, Plant, Water, Nutrient Relationships
111	Conservation and Efficient Use of Water
124	Urban Forestry
202	Plant Genetic Resources
206	Basic Plant Biology
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

Outcome #2

1. Outcome Measures

Percentage of program participants who indicated a plan to adopt one or more of the practices recommended in this program.

Not Reporting on this Outcome Measure

Outcome #3

1. Outcome Measures

Number of invited presentations by faculty as a direct result of the success of this program.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	{No Data Entered}	29

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
102	Soil, Plant, Water, Nutrient Relationships
111	Conservation and Efficient Use of Water
124	Urban Forestry
202	Plant Genetic Resources
206	Basic Plant Biology
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

Outcome #4

1. Outcome Measures

Educate turfgrass producers and other industry professionals the disease etiology, epidemiology, and effective disease management strategies Improve their skills in diagnosis of turfgrass diseases Be able to identify the most prevalent turfgrass diseases and be able to implement the most effective control. Be able to implement a more judicious selection of fungicides for disease control

2. Associated Institution Types

- 1862 Extension
- 1890 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	{No Data Entered}	1254

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
212	Pathogens and Nematodes Affecting Plants
216	Integrated Pest Management Systems

Outcome #5

1. Outcome Measures

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. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	{No Data Entered}	25218

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
102	Soil, Plant, Water, Nutrient Relationships
111	Conservation and Efficient Use of Water
124	Urban Forestry
206	Basic Plant Biology
213	Weeds Affecting Plants
216	Integrated Pest Management Systems
404	Instrumentation and Control Systems
405	Drainage and Irrigation Systems and Facilities
602	Business Management, Finance, and Taxation
605	Natural Resource and Environmental Economics
806	Youth Development

V(H). Planned Program (External Factors)

External factors which affected outcomes

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

Brief Explanation

As population grows in urban areas, so does the number of landscape businesses.
The landscape industry is an easy industry to enter when lay-offs from other industries occur. New landscape professionals need business management assistance.

Natural disasters could destroy the germplasm used in the breeding program. Poor economic conditions would reduce funding for the research, so that insufficient labor and resources would be available. Competing programs, such as teaching needs of the University, could reduce the PI's time for research.
Severe changes in weather patterns can change diseases dynamics therefore preventing or diverging emphasis on certain disease. Government regulations on certain fungicides can hamper the applicability of those in disease control. Economy downturns and budget cuts can prevent training sessions from being conducted restricting travel and others 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.
PDA and GPS technology is ever-changing. Costs are likely to go down, but market factors and changes in landscape market could affect outcome.

V(I). Planned Program (Evaluation Studies and Data Collection)

1. Evaluation Studies Planned

- After Only (post program)
- Before-After (before and after program)
- During (during program)

Evaluation Results

{No Data Entered}

Key Items of Evaluation

{No Data Entered}

V(A). Planned Program (Summary)

Program # 19

1. Name of the Planned Program

Youth Life Skill Development

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	6%	0%	0%	0%
135	Aquatic and Terrestrial Wildlife	10%	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	5%	0%	0%	0%
301	Reproductive Performance of Animals	3%	0%	0%	0%
302	Nutrient Utilization in Animals	3%	0%	0%	0%
305	Animal Physiological Processes	1%	0%	0%	0%
306	Environmental Stress in Animals	1%	0%	0%	0%
307	Animal Management Systems	10%	0%	0%	0%
311	Animal Diseases	2%	0%	0%	0%
312	External Parasites and Pests of Animals	3%	0%	0%	0%
313	Internal Parasites in Animals	3%	0%	0%	0%
315	Animal Welfare/Well-Being and Protection	5%	0%	0%	0%
608	Community Resource Planning and Development	0%	20%	0%	0%
802	Human Development and Family Well-Being	5%	0%	0%	0%
806	Youth Development	41%	80%	0%	0%
	Total	100%	100%	0%	0%

V(C). Planned Program (Inputs)

1. Actual amount of professional FTE/SYs expended this Program

Year: 2009	Extension		Research	
	1862	1890	1862	1890
Plan	5.0	1.0	0.0	0.0
Actual	7.5	1.0	0.0	0.0

2. Actual dollars expended in this Program (includes Carryover Funds from previous years)

Extension		Research	
Smith-Lever 3b & 3c	**1890 Extension**	**Hatch**	**Evans-Allen**
624924	330181	0	0
1862 Matching	**1890 Matching**	**1862 Matching**	**1890 Matching**
624924	330181	0	0
1862 All Other	**1890 All Other**	**1862 All Other**	**1890 All Other**
0	0	0	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

4-H faculty members developed curriculum, trained and supported county extension agents conducting monthly educational programs for in-school club meetings around the state.

4-H faculty members developed 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 developed curriculum and trained 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 conducted 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 provided in-service training and web-based information for county faculty, staff, and volunteers for working with youth in civic engagement. They trained 4-H issue ambassadors to work on community change during ambassador training and prepare complimentary information for ambassadors to use as reference. State faculty trained 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 produced and provided 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 funded specialists and their direct efforts primarily to county agents. These agents then disseminated this information to youth in their county.

2. Brief description of the target audience

The target audience for this planned program includes county Extension agents and volunteers, military children, youths 6-19 years old and their families and schools. Parts the this program will focus on low income and limited resource families.

V(E). Planned Program (Outputs)

1. Standard output measures

2009	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Plan	1400	2000	5000	5000
Actual	4273	432	35544	575

2. Number of Patent Applications Submitted (Standard Research Output)

Patent Applications Submitted

Year: 2009
Plan: 0
Actual: 0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2009	Extension	Research	Total
Plan	6	0	
Actual	15	0	15

V(F). State Defined Outputs

Output Target

Output #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.

Year	Target	Actual
2009	750	4240

Output #2

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.

Year	Target	Actual
2009	200	132672

Output #3

Output Measure

- Number of significant publications including articles, bulletins and extension publications. (excluding peer reviewed articles)

Year	Target	Actual
2009	10	17

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

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 program participants reporting increased knowledge after program participation.
3	Number of invited presentations by faculty as a direct result of the success of this program.
4	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.
5	4-H and Environmental Stewardship

Outcome #1

1. Outcome Measures

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. Associated Institution Types

- 1862 Extension
- 1890 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	150000	897199

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
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
301	Reproductive Performance of Animals
302	Nutrient Utilization in Animals
305	Animal Physiological Processes
306	Environmental Stress in Animals
307	Animal Management Systems
311	Animal Diseases
312	External Parasites and Pests of Animals
313	Internal Parasites in Animals
315	Animal Welfare/Well-Being and Protection
608	Community Resource Planning and Development
802	Human Development and Family Well-Being
806	Youth Development

Outcome #2

1. Outcome Measures

Percentage of program participants reporting increased knowledge after program participation.

Not Reporting on this Outcome Measure

Outcome #3

1. Outcome Measures

Number of invited presentations by faculty as a direct result of the success of this program.

2. Associated Institution Types

- 1862 Extension
- 1890 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	{No Data Entered}	42

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
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
301	Reproductive Performance of Animals
302	Nutrient Utilization in Animals
305	Animal Physiological Processes
306	Environmental Stress in Animals
307	Animal Management Systems
311	Animal Diseases

312	External Parasites and Pests of Animals
313	Internal Parasites in Animals
315	Animal Welfare/Well-Being and Protection
608	Community Resource Planning and Development
802	Human Development and Family Well-Being
806	Youth Development

Outcome #4

1. Outcome Measures

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. Associated Institution Types

- 1862 Extension
- 1890 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	{No Data Entered}	1317

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
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
301	Reproductive Performance of Animals
302	Nutrient Utilization in Animals
305	Animal Physiological Processes
306	Environmental Stress in Animals
307	Animal Management Systems
311	Animal Diseases

312	External Parasites and Pests of Animals
313	Internal Parasites in Animals
315	Animal Welfare/Well-Being and Protection
608	Community Resource Planning and Development
802	Human Development and Family Well-Being
806	Youth Development

Outcome #5

1. Outcome Measures

4-H and Environmental Stewardship

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2009	{No Data Entered}	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
About 23,000 (6 percent) middle school student and 81,000 (19 percent) high school students in Georgia smoke cigarettes. In fact, more than 11,000 adult Georgians die every year from tobacco-related illnesses.

What has been done
Georgia 4-H implemented the Health Rocks curriculum. Health Rocks! is a wellness and life skills curriculum developed by National 4-H Council to reduce youth risk factors. The program focuses on positive youth development and life skills development as an approach to preparing young people to make healthy lifestyle choices. Health Rocks includes life skills such as decision making, critical thinking, and stress management is taught in a youth-adult partnership. The program promotes healthy lifestyle choices, targeting youth ages 8 to 14.

Results
Georgia 4-H has already reached 17,350 total youth. A total of 159 youth and adults were trained to teach the program in their 53 counties and communities. In addition, a statewide team of three youth, two County Extension agents and one Extension specialist served as National Health Rocks trainers at the national training held in Washington D.C. They also serve as the statewide training team.

4. Associated Knowledge Areas

KA Code	Knowledge Area
802	Human Development and Family Well-Being
806	Youth Development

V(H). Planned Program (External Factors)

External factors which affected outcomes

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

Brief Explanation

Since this program involves several types of food animals, changes in any production factor or population changes can affect individual components of the program.
At least one of the program is a joint program in cooperation with another agency, changing in mission and vision of this group could affect the experience offered in 2008 & 10 relative to the youth summit
Programmatically, as Georgia 4-H continues to grow and change to meet the needs of the youth of Georgia, this issue may no longer be in the forefront of programming and competing programs could shift the plan.
In the area, specifically, of Operation Military Kids, changes in the number of reservists called to duty could impact the programmatic goals of the OMK program"
Our program will be affected by weather, gas prices, school policy, testing, and the economy.
Since this program involves horses, a recreation animal whose ownership, use, and maintenance is in direct correlation to the economy, any changes in the economy and population can affect individual components of the program.

V(I). Planned Program (Evaluation Studies and Data Collection)

1. Evaluation Studies Planned

- Before-After (before and after program)
- During (during program)

Evaluation Results

{No Data Entered}

Key Items of Evaluation

{No Data Entered}