2008 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

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 9,544,750. The 2007 population listed in the 2009 Georgia County Guide reported 26.52% of Georgians were age 19 or younger and 9.88% of the state's population was 65 or older. Of the state's citizens, the 2009 Georgia County Guide reported that in 2007, 65.6% of Georgians were of white descent, 30% were of African American descent, 7.8% were of Hispanic descent. From 2000 to 2007 there has been a substantial increase in the Hispanic/Latino descent from 5.3% in 2000 to 7.8% in 2007.

The Georgia Extension Service has 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. 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.

<u>Managing Water, Energy, Waste and Air Quality in Agriculture:</u>

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. UGA 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 UGA 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 4,000 direct contacts and over 35,000 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 300,000 additional direct extension contacts in the area of ANR programming for urban audiences. There were 2,602 training sessions provided. Agricultural county level programming held in the metro areas of Georgia generated over 3 million educational contacts hours for FY ’07. Georgia has 70 counties that are considered metropolitan according to the UGA CAES Center for Urban Agriculture.

The Master Gardener Program has grown from just a few hundred MGs in the metro Atlanta area to 7000 MGs trained across the state. Volunteers consistently log an average of 175,000 volunteer hours per year at a dollar value of $3.5 million (2008) 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. An average of 15 MG trainings are conducted each year. Special recognition in 2008 included 12 gold stars awarded for completion of MG Advanced training and 75 Lifetime Badges awarded in recognition for ten years of dedicated service.

Housing and the Near Environment:

Faculty associated with federal funds reported over 400 direct contacts and almost 200 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 60,694 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 …making 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-service 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.

SUSTAINABILITY AND PROFITABILITY IN AGRICULTURE: The Sustainable Agriculture Summit was held on June 12, 2008 at Fort Valley State University in cooperation with the University of Georgia and Southern SARE. The purpose of the Summit was to obtain stakeholder input on the critical needs for sustainable agriculture in Georgia. There were 190 participants. Based on the survey responses (only 48% returned), it was a diverse group with 34% farmers, 17% non-profit organizations, 16%researchers, 13% educators, 10% Extension, 3% agricultural professionals, and 9% others that included retailers, produce buyers, and an agricultural loan officer.

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 – 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) and will develop and deliver 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-circulating aquaculture systems.

4) Biorefinery and Carbon Cycling Program – 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 – 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 develop new cultivars, with emphasis on plants of current or potential importance to Georgia, which manifest improved performance or manifest value-added traits.

12) Plant Production and Protection –Research 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-school 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:2008	**Extension**		**Research**	
	1862	**1890**	**1862**	**1890**
Plan	45.0	15.0	46.0	17.0
Actual	86.1	7.2	75.1	22.5

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 of the general public
- 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
- Use Internal Focus Groups
- Use External Focus Groups
- 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. 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 occurs 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 three times during the year.Two statewide surveys -- ANR & Youth Development -- were conducted to collect county input. The statewide CAES advisory committee met two times during the year. With the Archway Program, 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 was 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 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 seek greater partnerships with the institutions and are willing to contribute their time, talent and resources to build further capacity for the institutions. Most are placing the long term survival and enhancement of Research and Extension above the needs of their particular operation, organization or community.They want to be part of the solution knowing that as Research and Extension become 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
7171586	2120004	5022775	2424857

2. Totaled Actual dollars from Planned Programs Inputs				
	Extension		Research	
	Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
Actual Formula	7405514	2120004	7548712	2424857
Actual Matching	7405514	2120004	7548712	2424857
Actual All Other	0	0	0	0
Total Actual Expended	14811028	4240008	15097424	4849714

3. Amount of Above Actual Formula Dollars Expended which comes from Carryover funds from previous years				
Carryover	4349911	0	6146614	0

V. Planned Program Table of Content

Program #1

V(A). Planned Program (Summary)

1. Name of the Planned Program

Agriculture and Food Defence 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	5%	5%	5%	5%
212	Pathogens and Nematodes Affecting Plants	15%	15%	15%	15%
306	Environmental Stress in Animals	5%	5%	5%	5%
311	Animal Diseases	28%	28%	28%	28%
314	Toxic Chemicals, Poisonous Plants, Naturally Occurring Toxins, and Other Hazards Affecting Animals	2%	2%	2%	2%
315	Animal Welfare/Well-Being and Protection	5%	5%	5%	5%
608	Community Resource Planning and Development	15%	15%	15%	15%
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins	10%	10%	10%	10%
722	Zoonotic Diseases and Parasites Affecting Humans	5%	5%	5%	5%
723	Hazards to Human Health and Safety	10%	10%	10%	10%
	Total	100%	100%	100%	100%

V(C). Planned Program (Inputs)

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

Year: 2008	**Extension**		**Research**	
	1862	**1890**	**1862**	**1890**
Plan	1.0	0.0	0.0	0.0
Actual	1.0	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**
86010	0	0	0
1862 Matching	**1890 Matching**	**1862 Matching**	**1890 Matching**
86010	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

Monthly Committee on Agriculture and Food Defense meetings of key stakeholders were conducted and/or supported.Animals-in-Disaster planning templates were expanded.County emergency plans related to agriculture were created.A previously-created Homeland Security Information Network portal was expanded and stakeholders trained to augment communications.

2. Brief description of the target audience

University, state and local government agencies and industry were trained for prevention and response capabilities. The general public received awareness education.

V(E). Planned Program (Outputs)

1. Standard output measures

Target for the number of persons (contacts) reached through direct and indirect contact methods

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	**Target**	**Target**	**Target**	**Target**
Plan	250	1000	0	0
2008	1200	1000	1000	1000

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

Patent Applications Submitted

Year	Target
Plan:	0
2008 :	0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

	Extension	Research	Total
Plan	0	0	
2008	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.

Year	Target	Actual
2008	1800	7

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
2008	1000	12

Output #3

Output Measure

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

Year	Target	Actual
2008	6	12

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.

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
2008	30000	1309

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
306	Environmental Stress in Animals
315	Animal Welfare/Well-Being and Protection
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins
311	Animal Diseases
722	Zoonotic Diseases and Parasites Affecting Humans
314	Toxic Chemicals, Poisonous Plants, Naturally Occurring Toxins, and Other Hazards Affecting Animals
723	Hazards to Human Health and Safety
608	Community Resource Planning and Development
133	Pollution Prevention and Mitigation

Outcome #2

1. Outcome Measures

Percentage of program participants reporting increased knowledge after program participation.

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	80	35

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
315	Animal Welfare/Well-Being and Protection
722	Zoonotic Diseases and Parasites Affecting Humans
306	Environmental Stress in Animals
608	Community Resource Planning and Development
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins
133	Pollution Prevention and Mitigation
723	Hazards to Human Health and Safety
314	Toxic Chemicals, Poisonous Plants, Naturally Occurring Toxins, and Other Hazards Affecting Animals
311	Animal Diseases

Outcome #3

1. Outcome Measures

County Agriculture Response Teams or county agriculture emergency plans created.

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	20	8

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

The outcome of the related Agrosecurity projects is that a process of assisting local communities with agriculture-related emergency planning was implemented based on research and planning conducted in previous periods. Key evacuation and host sheltering communities were targeted including Peach, Houston, and Chatham Counties. 23 additional counties were served through a unique planning workshop that focused on Emergency Management Directors and those responsible for agriculture emergencies.

4. Associated Knowledge Areas

KA Code	Knowledge Area
722	Zoonotic Diseases and Parasites Affecting Humans
608	Community Resource Planning and Development
315	Animal Welfare/Well-Being and Protection
306	Environmental Stress in Animals
212	Pathogens and Nematodes Affecting Plants

133	Pollution Prevention and Mitigation
723	Hazards to Human Health and Safety
314	Toxic Chemicals, Poisonous Plants, Naturally Occurring Toxins, and Other Hazards Affecting Animals
311	Animal Diseases
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins

V(H). Planned Program (External Factors)

External factors which affected outcomes

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

Brief Explanation

The number of county emergency plans was hampered by relevant state planning which slowed identification of key counties.

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

1. Evaluation Studies Planned

- Before-After (before and after program)

Evaluation Results

Student evaluations were performed before and after Agrosecurity Awareness trainings to ascertain program effectiveness. Also, After Action Reports were conducted for local planning workshops.

Key Items of Evaluation

Program #2

V(A). Planned Program (Summary)

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
301	Reproductive Performance of Animals	16%	16%	16%	16%
302	Nutrient Utilization in Animals	15%	15%	15%	15%
303	Genetic Improvement of Animals	16%	16%	16%	16%
305	Animal Physiological Processes	8%	8%	8%	8%
306	Environmental Stress in Animals	5%	5%	5%	5%
307	Animal Management Systems	23%	23%	23%	23%
311	Animal Diseases	8%	8%	8%	8%
312	External Parasites and Pests of Animals	3%	3%	3%	3%
313	Internal Parasites in Animals	3%	3%	3%	3%
315	Animal Welfare/Well-Being and Protection	3%	3%	3%	3%
	Total	100%	100%	100%	100%

V(C). Planned Program (Inputs)

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

Year: 2008	Extension		Research	
	1862	1890	1862	1890
Plan	4.5	0.3	3.0	0.8
Actual	11.8	1.0	2.3	1.6

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

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
1014918	294445	229236	166675
1862 Matching	1890 Matching	1862 Matching	1890 Matching
1014918	294445	229236	166675
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 for clients. Tutorial was developed.

New treatments for the control bovine mastitis were developed.

Research was conducted to develop models and software that can be used to analyze data sets composed of beef cattle of differing breed composition. Multi-breed genetic values were provided on the animals contained in the data sets analyzed. The data sets principally came from purebred beef associations and large commercial operations.

Workshops, field trials and farm visits with groups of producers across Georgia regarding the improvement of reproductive management and milk production were held.

Dairy Business Analysis Project (DBAP) data was collected and analyzed.

A bull testing program and sale was conducted at two locations per year in Georgia. Approximately 350 bulls were tested each year. A heifer evaluation and reproductive development program and sale was conducted at two locations in Georgia each year. Approximately 400 heifers were evaluated each year. The Georgia Beef Challenge evaluated calves for feedlot performance and carcass evaluation in commercial feedlots.

Studies were conducted in the pig to examine 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.

Improved techniques for reducing the negative effects of heat stress on production and reproduction will be disseminated to end users including nutritionist, bovine practitioners, dairy producers, county agents, and scientific peers through the publication of research reports, abstracts, and journal articles as well as presentations at dairy field days and conferences.

Seven consecutive Monday night workshops/classes conducted by State Specialists will allow producers to learn advanced beef management practices. These workshops/classes allow producers and agents to have one-on-one interactions with UGA scientists.

Through meetings, one-on-one consultations, publications, etc., we provided timely and pertinent information to agents, producers and the general public. In addition to information about flies, fleas, and other ectoparasites, we covered topics related to pests of livestock, poultry, and companion animals. Working with the media, we disseminated information on such topics as ticks, mosquitoes, bed bugs, chiggers, and venomous spiders. We collaborated with all the state's food animal associations, as well as the Georgia Pest Control Association, to provide their members the most up-to-date research-based information.

Collaborative efforts within the Department of Animal and Dairy Science, USDA/ARS, Russell Research Center, and College of Veterinary Medicine were established. Joint working groups from all involved agreed on a working plan and coordinated ongoing activities. Microbiological laboratories and veterinary diagnostic laboratories played a key role in the detection of resistant bacterial pathogens with regards to submission of clinical specimens for the historical culture and sensitivity testing. Results obtained from research studies were presented at scientific meetings and manuscripts were submitted for publication consideration in refereed journals.

Training the poultry industry on effective environmental management practices and educating the general public concerning the issues of nutrient management, nutrient balance, and sustainable water quality continue to be conducted. Two poultry companies were targeted this year for training of new growers on NMP efforts and plan development. To that end, three grower trainings were conducted. Poultry growers and allied industry continue to need training in order to come into compliance with the requirements of National Pollutant Discharge Elimination System (NPDES) permits.

New statistical procedures focusing on predicting performance or commercial animals with greater weight on non-production traits were developed.

Research will continue that compares cow-calf production on different bahiagrass and bermudagrass /creep grazing experiments. Evaluation of new forages including Coastcross II for grazing and hay quality; and, pigeon peas for grazing and for grain production for cattle feeding will continue. By-product feeds will be evaluated for nutritional and economic value in beef production systems. Strategies were employed to evaluate improved beef meat quality through feeding different additives and grains, and effects on human nutrition (Lowering fat content, decreasing cancer-causing agents, increasing CLA in fat.)

Four group training sessions were held. Information materials relative to parasites and NAIS were developed and distributed. On-farm and research station studies with sereica lespedeza and hair sheep genetics were conducted. Over 500 responses were made to technical inquiries via e-mail and telephone.

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.

Phenotypic records on traits correlated to the responses of interest and genetic test information of already identified mutations was used. Several simulation scenarios was implemented and tested. Accuracies of breeding values predictions and the expected genetic process was used as evaluation criteria.

A "Master Equine Specialist" program was developed.

Lactating goats were fed either alfalfa- or sericea lespedeza-based concentrate diets. Milk yield and composition, and fatty acid composition were determined. Growing goats were also fed total mixed diets (similar protein and energy) containing either sericea or bermudagrass hay. Weight gain was determined.

2. Brief description of the target audience

Target Audience includes:industry professionals, county agents, scientific peers, Agribusiness personnel, Veterinarians, Financial officers, consumers, animal agricultural producers (dairymen, poultry producers, livestock producers, etc.)., neighbors living around animal agricultural environments, horse, dog, cat or other pet owners.Also includes statewide audience of Extension educators and public interested in or engaged in goat production, sheep production, or multi-species grazing, and traditionally underserved clients engaged in or interested in livestock enterprises in general.

V(E). Planned Program (Outputs)

1. Standard output measures

Target for the number of persons (contacts) reached through direct and indirect contact methods

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
Plan	2500	20000	400	1600
2008	2940	22390	1080	1980

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

Patent Applications Submitted

Year	Target
Plan:	0
2008 :	0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

	Extension	Research	Total
Plan	0	0	
2008	0	0	8

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

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

Year	Target	Actual
2008	12	58

Output #2

Output Measure

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

Year	Target	Actual
2008	525	305

Output #3

Output Measure

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

Year	Target	Actual
2008	1500	1123

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.
7	Sericea lespedeza to replace alfalfa

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
2008	29000	55420

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
306	Environmental Stress in Animals
302	Nutrient Utilization in Animals
315	Animal Welfare/Well-Being and Protection
311	Animal Diseases
305	Animal Physiological Processes
301	Reproductive Performance of Animals
312	External Parasites and Pests of Animals
307	Animal Management Systems
313	Internal Parasites in Animals

Outcome #2

1. Outcome Measures

Number of Master Cattlemen certifications granted through this planned program.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	60	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
303	Genetic Improvement of Animals
311	Animal Diseases
307	Animal Management Systems
315	Animal Welfare/Well-Being and Protection
306	Environmental Stress in Animals
313	Internal Parasites in Animals
312	External Parasites and Pests of Animals
302	Nutrient Utilization in Animals
301	Reproductive Performance of Animals
305	Animal Physiological Processes

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
2008	1048	68

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

Many (50) landowners became aware of the potential for various livestock species, particularly sheep and goats, as part of integrated land use strategies. They were able to then make informed decisions.

4. Associated Knowledge Areas

KA Code	Knowledge Area
311	Animal Diseases
301	Reproductive Performance of Animals
303	Genetic Improvement of Animals
307	Animal Management Systems
315	Animal Welfare/Well-Being and Protection
302	Nutrient Utilization in Animals
305	Animal Physiological Processes
306	Environmental Stress in Animals
313	Internal Parasites in Animals
312	External Parasites and Pests of Animals

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
2008	7	10

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
306	Environmental Stress in Animals
315	Animal Welfare/Well-Being and Protection
313	Internal Parasites in Animals
301	Reproductive Performance of Animals
303	Genetic Improvement of Animals
312	External Parasites and Pests of Animals
311	Animal Diseases
307	Animal Management Systems
305	Animal Physiological Processes
302	Nutrient Utilization in Animals

Outcome #5

1. **Outcome Measures**

Percentage of program participants reporting increased knowledge after program particpation.

Not reporting on this Outcome for this Annual Report

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 for this Annual Report

Outcome #7

1. **Outcome Measures**

Sericea lespedeza to replace alfalfa

2. **Associated Institution Types**

•1890 Research

3a. **Outcome Type:**

Change in Action Outcome Measure

3b. **Quantitative Outcome**

Year	Quantitative Target	Actual
2008	{No Data Entered}	0

3c. **Qualitative Outcome or Impact Statement**

Issue (Who cares and Why)

What has been done

Results

Sericea lespedeza has been reported to control internal parasite in small ruminants including goats. Sericea lespedeza can now replace alfalfa in lactating goat diet with same milk yield, protein, lactose and total solids and lower fat and saturated fatty acid content. Meat goats can also grow faster with sericea lespedeza compared to bermudagrass in a total mixed ration balanced for protein and energy.

4. **Associated Knowledge Areas**

KA Code	Knowledge Area
302	Nutrient Utilization in Animals
313	Internal Parasites in Animals
305	Animal Physiological Processes

V(H). Planned Program (External Factors)

External factors which affected outcomes

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

Brief Explanation

Wet and humid weather conditions favor the growth of environmental mastitis-causing bacteria, which increases the need for further mastitis control. A downward plunge in economy may prohibit the costs associated with antimicrobial therapy. Laws regulating the use of antimicrobials in food-producing animals may prohibit use of certain methods of mastitis control.

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.

Drought, high feed prices and marketing situations from milk didersions and pooling.

Willingness of dairy producers to participate in the sharing of data.

Drought conditions can cause reductions in the number of cattle and thus decrease the demand for bulls and replacement females. A decrease in cattle prices or the overall economy would have the same effect.

Changes in economy or regulation may alter the potential use of some of the technologies investigated.

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 influenced and served as alternative explanations for outcomes.

Price of commercial fertilizer will promote the use of organic fertilizers in areas of crop production outside of the poultry producing region.

Forage production for hay and grazing depends on weather conditions--drought could diminish expected productivity of new and experimental forages, affect stands, ultimately affect livestock production and profitability. Reduced public funding for fundamental forage and livestock production research could depress initiative to conduct needed high-quliaty research. Competing programs may force abandonment of on-going research programs.

Public policy on biofuel and impact on land use, food supply, and feed supply. Government regulations on meat inspection. General down-turn in economy meant less money for new enterprises. Success rate of grant applications because more competition for limited funds. Increase in target population brought higher demand.

Natural disasters cause economic hardship. This limits funds available for federal funding of research. Changes in policy or prioities may shift federal funds away from this area of research. Immerging issues such as avian influenza may reduce federal funds available for this area of research or force the closure of the USDA Animal Physiology research unit with which we collaborate.

Drought did not allow the establishment of the pastures area needed. But the experiments were switched around to conduct the lactation studies in confinement in 2007.

Not all external factors that were encountered were expected.

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)
- During (during program)
- Time series (multiple points before and after program)
- Case Study
- Comparisons between program participants (individuals,group,organizations) and non-participants
- Comparisons between different groups of individuals or program participants experiencing different levels of program intensity.
- Comparison between locales where the program operates and sites without program intervention

Evaluation Results

Contacts, DHIA data, breeding records and treatment information, surveys and questionaires.Data from breeding and preganacy treatments will be maintained, as well as blood and milk samples for analysis. Production records will be moinitored before and after trainings.

Retrospective: After program is shown to be successful under experimental research conditions and results disseminated to end users, determine to what extent producers are utilizing the new technology. Comparisons between Program Participants: Perform a field trial using dairymen who employ the new technology vs those who do not and determine if the new technology is successful. Sampling: Of milk sample from cases of mastitis before and after treatment with experimental product. Case Study: Determine effectivness of product using individual cases of mastitis in cooperator herds. Observation: Of individual cows which receive the new product for any effects on animal health. Tests: Performed inlaboratoru to dtermine bacterial species of infecting bacteria and for determination of somatic cells counts as a measure of inflamation.

After only: After multi-breed genetic evaluation methodology has been fully tested and made available, we will determine how many breed associations adopt it and how many producers are impacted by the new technolgy.Obervation: we will be able to count how many beed associations and producers adopt the new model, and consequently how many cattle are affected by the new technology.

Information being gathered for publication.

No case studies were completed. One set of "before" data were collected to measure impact following intervention of deworming protocol.

Data analysis & publications.

Gather input from producers concerning problems encountered before research is conducted, then demonstrate results in university tours/demonstrations/presentations/on-farm demonstrations. Then, after producers apply allor part of programs or initiate stands of new forages, ask for producer and county extension agent reporting of results. Provide input gathering meetings and opportunities for producers to reveal their results with new forages or management programs.Forage ad hay samples could be gathered from demonstration sites and farmer fields, analyzed for qulaity to verify & compare with test results. Discussion with producers relative to their evaluation of foragesis critical to acceptance and adaptation of new forages and management practices. Obsevation of on-site fields, hays, management would provide incite into how well producers are doing with new forages or management.

Data show that feeding 12% soybean oil compared to 6% decreased the proportion of milk saturated fatty acids and increased the proportions of monounsaturated fat and linoleic acid without affecting. Milk yield, protein, lactose and fat contents were not affected.

After completion of the project, evaluation will be conducted based on the adoption of the proposed procedure by breeding associations. The number and relevance of the breed associations to adopt the proposed procedure will allows us to evaluation the impact.

An evaluation is collected after the completion of the final session. This will help me to determine how the next program can be improved. One year after the program, a post-meeting survey is mailed to the participants that completed the program and assesses any changes they may have made and the overall financial impacts as a result of the program.An evaluation is collected after the completion of the final session. This will help me to determine how the next program can be improved. One year after the program, a post-meeting survey is mailed to the participants that completed the program and assesses any changes they may have made and the overall financial impacts as a result of the program.

Submission rate of poultry litter samples to the lab for analysis to aid in NMP decisions.

The program is evaluated annually as part of a multi-state research project.

During: Each year the program will be evaluated to determine if any new testing procedures should be implemented or educational materials developed to maintian the most current information for producers to use when determining the value of cattle. Sampling: Animals in the evaluation programs will be subjected to the following measurements: weight gain, reproductive tract traits, pregnancy status, frame size, and carcass traits utilizing both ultrasound and post-harvest carcass measurements. Observation: Animals will be evaluated for disposition, coat color, and structural abnormalities.

Industry contacts, producers, county agents, and scientific peers, data collection, group activities, meetings, on site visits, publications, reports -- data was gathered from each farm and summarized.

A pre-test will be given to program participants and a post test after the participants have gone through the entire program. In addition an evaluation form wil be developed with the intent to measure knowledge learned as well as projected environmental and economic impact.Written tests and evaluations will be given.

Key Items of Evaluation

Program #3

V(A). Planned Program (Summary)

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	12%	12%	12%	12%
131	Alternative Uses of Land	18%	18%	18%	18%
307	Animal Management Systems	27%	27%	27%	27%
311	Animal Diseases	15%	15%	15%	15%
312	External Parasites and Pests of Animals	10%	10%	10%	10%
601	Economics of Agricultural Production and Farm Management	11%	11%	11%	11%
604	Marketing and Distribution Practices	7%	7%	7%	7%
	Total	100%	100%	100%	100%

V(C). Planned Program (Inputs)

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

Year: 2008	Extension		Research	
	1862	1890	1862	1890
Plan	0.8	0.8	0.0	0.5
Actual	1.6	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
137617	294445	0	107532
1862 Matching	1890 Matching	1862 Matching	1890 Matching
137617	294445	0	107532
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 will be held on the topics of catfish production and freshwater prawn production that include distribution of detailed reference material. Publications will be written to update existing catfish production and freshwater prawn production literature. Assistance will be given to at least 4 catfish processors in Georgia for plant development, market development, or supply development. Aquaculture product promotion and marketing will be conducted to more than 6,000 consumers at the Sunbelt Exposition. The Georgia Aquaculture Association newsletter will be edited and published biannually. The UGA Aquaculture website will be maintained to include aquaculture information and events.

In 2008, 1,198 visitors toured the aquaculture greenhouses with 798 of those being students from pre-school to high school. Six aquaculture workshops and presentations with aquaculture center tours were provided at FVSU during 2008. Aquaculture presentations on various topics were given, and in depth training was provided with "hands on" demonstrations with different recirculating aquaculture and aquaponic systems, and with different fish and prawn species. Over 839 clients attended either on-campus workshops or other aquaculture presentations made at various sites around the state. Other off-campus aquaculture FVSU outreach efforts provided more than 2,400 participants aquaculture information, presentations and demonstrations at 8 field days or workshops. Our outreach efforts with the Tri-State Aquaculture Association at the Sunbelt Agricultural Expo and at the FVSU building exposed over 8,000 participants to information on aquaculture and/or the taste of farmed catfish.

In each of the six aquaculture workshops and/or presentations conducted at GCAD, training was provided on proper water quality management and disease prevention. Tours of the greenhouses were conducted to demonstrate best management practices to optimize aquatic animal health and biosecurity in the different RAS. Water quality management and disease diagnosis services were provided for producers at the GCAD. The aquaculture newsletter articles dealt with best management practices to avoid water quality and disease problems. Progress was made in equipping the aquaculture water quality, fish nutrition and disease diagnostic laboratory.

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.

Citizens who are curious about aquaculture or serious about starting an aquaculture business. Producers who are already in aquaculture and those just starting a business who need greater assistance in all areas of production. Small scale farmers or those without large acreage that can use RAS training. Senior citizens interested in additional activities. Seafood processors and their clients.

V(E). Planned Program (Outputs)

1. Standard output measures

Target for the number of persons (contacts) reached through direct and indirect contact methods

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	**Target**	**Target**	**Target**	**Target**
Plan	120	600	800	0
2008	360	800	1576	0

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

Patent Applications Submitted

Year	Target
Plan:	0
2008 :	0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

	Extension	Research	Total
Plan	0	0	
2008	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.

Year	Target	Actual
2008	4	13

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
2008	80	190

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
2008	20	201

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	Increase in the farm gate value of catfish production in Georgia. Reported annually in millions of dollars.
7	Programming outcomes from educational programming.

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
2008	700	6661

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

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

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

- 1890 Extension
- 1890 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	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
307	Animal Management Systems
131	Alternative Uses of Land
601	Economics of Agricultural Production and Farm Management
311	Animal Diseases
604	Marketing and Distribution Practices
312	External Parasites and Pests of Animals
123	Management and Sustainability of Forest Resources

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 for this Annual Report

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 for this Annual Report

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
2008	2400	2708

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

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

Outcome #6

1. Outcome Measures

Increase in the 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
2008	0	5

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

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

Outcome #7

1. Outcome Measures

Programming outcomes from educational programming.

2. Associated Institution Types

- 1890 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	{No Data Entered}	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Community impact and clientele impact of aquaculture programming.

What has been done

Georgia Center for Aquaculture Development provides hands-on experience with fish and prawns, and RAS production systems through workshops and extension assistance.
The FVSU aquaculture program continues to increase. GCAD provides information to citizens of Tennessee, Georgia, Florida and Alabama.

Results

The impact of FVSU's aquaculture program continues to increase. GCAD provides information to citizens of Tennessee, Georgia, Florida and Alabama. In 2008 alone, 1,080 Georgians toured the on-campus aquaculture facilities. Over 5,000 Georgians have toured the Georgia Center for Aquaculture Development (GCAD) greenhouse aquaculture facilities since the doors opened in 2003.

The GDCA assisted the Women's League of Marshallville to obtain a free greenhouse from the Forestry Department. The institution also advised the organization on the community development of an aquaponics program.

4. Associated Knowledge Areas

KA Code	Knowledge Area
123	Management and Sustainability of Forest Resources

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 (Fuel Costs)

Brief Explanation

Hurricanes may damage aquaculture facilities, economic recessions have led to reduction in aquaculture market prices, public policy related to tariffs may improve the aquaculture marketing environment, government policy relating to aquaculture may increase costs of production, competing public priorities may reduce the resources needed for aquaculture development, competing programs withing UGA have reduced resources needed for this extension effort in the past, 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.

Lack of completion of aquaculture laboratory greenhouse and pond facilities have delayed progress of accomplishing some of the planned outcomes. Employment of additional aquaculture staff besides one FTE (aquaculture director) came after the second part of the year and work was still directed at facilities development. Capacity for research had not been reached with facilities nor had staff been trained in aquaculture research capabilities in 2008.

The late date of the hire of asistance and the lack of completed laboratory, aquaculture facilities and acquisition of required research equipment prevented research goals from being accomplished in 2008.

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

1. Evaluation Studies Planned

- After Only (post program)
- Retrospective (post program)
- During (during program)
- Comparisons between program participants (individuals,group,organizations) and non-participants

Evaluation Results

Programs are evaluated by following the activities of participants after the programs. Georgia production is compared to the national average. Value of each development activity is evaluated on its own merits.Each development activity is evaluated by observation noting number of acres, size of construction, and number of employees and the owner is interviewed to obtain production volume and value. People, taste samples, literature distributed, web site requests, email requests, calls, visits, and letters are enumerated.

Key Items of Evaluation

Program #4

V(A). Planned Program (Summary)

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%	33%	33%	33%
403	Waste Disposal, Recycling, and Reuse	33%	33%	33%	33%
605	Natural Resource and Environmental Economics	34%	34%	34%	34%
	Total	100%	100%	100%	100%

V(C). Planned Program (Inputs)

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

Year: 2008	**Extension**		**Research**	
	1862	**1890**	**1862**	**1890**
Plan	1.0	0.0	2.0	0.0
Actual	4.0	0.0	5.0	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**
344042	0	502711	0
1862 Matching	**1890 Matching**	**1862 Matching**	**1890 Matching**
344042	0	502711	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 at UGA are involved in numerous research and extension projects related to energy production from biomass. 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.

2. Brief description of the target audience

Farmers, agribusiness, community leaders, entrepreneurs

V(E). Planned Program (Outputs)

1. Standard output measures

Target for the number of persons (contacts) reached through direct and indirect contact methods

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
Plan	500	1000	0	0
2008	800	1200	30	30

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

Patent Applications Submitted

Year	Target
Plan:	5
2008 :	5

Patents listed

1) Miscible, Multi-component, Diesel Fuels and Methods of Bio-Oil Transformation Published November, 2007 Dan Geller; 2) US Patent FILED (April 9, 2008): Substrate-Selective co-fermentation; 3) Provision Patent FILED (April 10, 2007): A novel fermentation strategy; 4) Patent FILED (April 2006): Method for controlling the cooling rate; 5) Patent disclosure (April 2006): Bio-oil diesel engine fuel

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

	Extension	Research	Total
Plan	0	0	
2008	0	0	4

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Number of Significant Publications

Year	Target	Actual
2008	15	12

Output #2

Output Measure

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

Year	Target	Actual
2008	50	120

Output #3

Output Measure

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

Year	Target	Actual
2008	600	1200

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.

Outcome #1

1. **Outcome Measures**

Percentage of program particpants reporting increased knowledge after program particpation

Not reporting on this Outcome for this Annual Report

Outcome #2

1. **Outcome Measures**

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

Not reporting on this Outcome for this Annual Report

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

Changes in government policy are significantly influenceing investment in these new technologies. The economy is also influencing the capital available for new ventures. The drought also is impacting our ability to produce some value added bioenergy crops.

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

1. **Evaluation Studies Planned**

- After Only (post program)

Evaluation Results

No evaluation studies are currently planned although feedback from clientile is positive and demand for the programs is strong.

Key Items of Evaluation

Program #5

V(A). Planned Program (Summary)

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
703	Nutrition Education and Behavior	40%	40%	40%	40%
724	Healthy Lifestyle	35%	35%	35%	35%
806	Youth Development	25%	25%	25%	25%
	Total	100%	100%	100%	100%

V(C). Planned Program (Inputs)

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

Year: 2008	Extension		Research	
	1862	1890	1862	1890
Plan	2.0	0.0	4.0	0.0
Actual	4.2	0.0	3.7	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
361245	0	372006	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
361245	0	372006	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

Walk-a-Weigh Program, our weight control program was updated and distributed to agents for their use via Weight Control Web page. Walk Georgia program, an on-line fitness program was developed and offered statewide during 2-8 week sessions. Updated Cooking for a Life Time Cancer Prevention Cooking School was released. Agents trained to use all of these curricula and were provided media releases to promote and disseminate the information contained in the curricula.

Reducing body fat by removing adipocytes through apoptosis has been demonstrated in several experimental paradigms. Decreasing adiposity through this mechanism can result in long-lasting maintenance of weight loss, in contrast to that which occurs after caloric restriction. Because over 90% of people who have lost weight by dieting will subsequently regain at least as much weight as they lost, a therapy that can help maintain weight loss will have tremendous importance in the treatment of obesity, diabetes, and related disorders in both humans and companion animals. In addition to developing in vitro and in vivo screening assays for measuring adipose tissue and bone marrow apoptosis and adipogenesis and determining changes in body fat content and bone growth, our goal is to develop a set of criteria for selection of natural compounds to be tested.

Develop neural assays.

Sections of Fall Forum include Healthy Lifestyles. Additionally, the Food Product Development team contest was held and healthy lifestyles were offered as a fifth grade curriculum club meeting track. The Ambassador program included Health Rocks and each camper this summer attending a Healthy Lifestyles class. During this year's Junior Conference, each participant had a Health Rocks class was well.

2. Brief description of the target audience

Specialists will 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.

Other target audience includes: scientific, producers, industry, school age (grades 4-12) youth and 4-H youth leaders.

V(E). Planned Program (Outputs)

1. Standard output measures

Target for the number of persons (contacts) reached through direct and indirect contact methods

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
Plan	600	2000	2025	10000
2008	354	0	2025	12565

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

Patent Applications Submitted

Year	Target
Plan:	0
2008 :	3

Patents listed
Patents were related to stem cells.

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

	Extension	Research	Total
Plan	0	0	
2008	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.

Year	Target	Actual
2008	20	19

Output #2

Output Measure

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

Year	Target	Actual
2008	260	223

Output #3

Output Measure

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

Year	Target	Actual
2008	105	869

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	Amount of additional resources leveraged because of program success.
5	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
2008	14000	23807

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

Georgia 4-H received two grants totaling $125,000 to use the Health Rocks! Program to address risk behaviors in Georgia youth. 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. In the first year of the program, Georgia 4-H agreed to reach 5,000 youth. Georgia 4-H exceeded this goal by reaching 6,802 youth. Sixty-eight youth and adults were trained to teach the program in their 21 counties and communities. Currently, there are more than 10,000 youth enrolled in the Health Rocks! program for 2008-2009, which will end in August of 2009.

4. Associated Knowledge Areas

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

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 for this Annual Report

Outcome #3

1. Outcome Measures

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

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:
Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	50	87

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

Participants in Walk Georgia report that it motivates them to exercise even when they do not feel like it and enjoy the friendly competition. Many report having more energy, losing weight, having a lower blood pressure and less stress. People who take part in Walk-a-Weigh state that they eat better on the meal plans that Extension provides than they ever have before and most participants lose around 8 pounds. Of those involved in the Cooking for a Life Time Cancer Prevention Cooking School, 97% find the school helpful or very helpful and 31% indicate they are more likely to get a Pap test after attending (62% already get them) and 35% reported they are more likely to get a mammogram (57% already get).

4. Associated Knowledge Areas

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

Outcome #4

1. Outcome Measures
Amount of additional resources leveraged because of program success.
Not reporting on this Outcome for this Annual Report

Outcome #5

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

3a. Outcome Type:
Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	2	5

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

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

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

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

Changes in the regulation of natural products could impact the use of these products by consumers.

The federal funding levels will affect the amount and number of exteramural grants obtained.

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)
- Case Study

Evaluation Results

During the Spring session of Walk Georgia 4,407 Georgians enrolled and 3, 036 were still participating at the end of eight weeks. During the Fall session, 4,583 enrolled and 3,204 were still participating after 8 weeks. Participants logged the equivalent of 1,061,803 miles. Seventy-four percent of participants in the first session reported that after Walk Georgia they were either a little or a lot more active than before the program started. During the second session, 69% reported said they were more active.Of the 482 participants (22% of the total) who responded to the 3 month follow-up survey for the Spring session, 93% reported they were still active at least three days a week for an average of 85 minutes per day. Using DHR statistics on how inactivity increases hospitalization costs for Georgia citizens, if these participants continue being active, potentially $210,000 - $245,000 in hospital costs could be saved annually. Since July 1, 2006, agents presenting our Cooking for a Life Time Cancer Prevention Cooking School,have referred 429 women to BreasTest and More and 83 got clinical breast exams and 81 got mammograms. Two cases of breast cancer were also identified and the women received treatment. Also 59% of participants who are not already following the recommended nutrition and physical activity guidelines plan to use the New American Plate from the American Institute for Cancer Research to plan meals, 51% plan to control portions, 49% plan to be physically active, 58% intend to eat fruit and vegetables at lunch and supper, 57% will start reading nutrition labels, 51% plan to eat whole grains, 62% intend to eat fruit for dessert, and 57% plan to limited saturated and trans fats.

The program success will be measured by the commercial value of the treatments developed by project.Sampling of in vitro culture systems will provide materials for a range of assays. Animal tests will follow the completion of the in vitro tests.

We will review the effectiveness of the neural cells in detecting disease and toxins.Different experimetnal conditions are applied to biological cells and data collected.

Evaluation following Ambassador program performed by participations and case studies evaluated.Healthy Lifestyler class also completed.

Key Items of Evaluation

Program #6

V(A). Planned Program (Summary)

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	48%	48%	48%	48%
801	Individual and Family Resource Management	35%	35%	35%	35%
802	Human Development and Family Well-Being	10%	10%	10%	10%
804	Human Environmental Issues Concerning Apparel, Textiles, and Residential and Commercial Structures	7%	7%	7%	7%
	Total	100%	100%	100%	100%

V(C). Planned Program (Inputs)

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

Year: 2008	**Extension**		**Research**	
	1862	**1890**	**1862**	**1890**
Plan	1.0	1.1	0.0	0.0
Actual	2.0	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**
172021	73611	0	0
1862 Matching	**1890 Matching**	**1862 Matching**	**1890 Matching**
172021	73611	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 program was implemented through group discussions, workshops, demonstrations and training supplemented by print and electronic media resources.

Financial literacy fact sheets were distributed. Ten different trainings ranging from 30 minutes to 6 hours in length were conducted for FACS agents and 4-H agents. In turn, agents provided training to other clients (particularly school teachers). More than 100 news articles and about a dozen radio spots were developed for distribution by agents to media outlets.

2. Brief description of the target audience

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

Target for the number of persons (contacts) reached through direct and indirect contact methods

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
Plan	775	3000	200	500
2008	309	300	425	500

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

Patent Applications Submitted

Year	Target
Plan:	0
2008 :	0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

	Extension	Research	Total
Plan	0	0	
2008	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
2008	150	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
2008	66	62

Output #3

Output Measure

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

Year	Target	Actual
2008	7	9

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O No.	OUTCOME NAME
1	Percentage of program participants reporting an increase in skills proficiency in financial management and consumer education.
2	Percentage of program participants reporting behavioral changes in financial literacy skills, knowledge and aptitude.
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 an increase in skills proficiency in financial management and consumer education.

Not reporting on this Outcome for this Annual Report

Outcome #2

1. Outcome Measures

Percentage of program participants reporting behavioral changes in financial literacy skills, knowledge and aptitude.

Not reporting on this Outcome for this Annual Report

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
2008	6500	13895

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
804	Human Environmental Issues Concerning Apparel, Textiles, and Residential and Commercial Structures
607	Consumer Economics
801	Individual and Family Resource Management

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

- 1890 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	2	10

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
607	Consumer Economics
801	Individual and Family Resource Management
802	Human Development and Family Well-Being

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

Apparel and textiles program may be affected by the following: Staffing patterns and resources available. Participants' and recipients'responses to program implementation.

Increasing home foreclosures, tightening of credit availability and rising prices pinch consumer pocket books.

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)
- During (during program)

Evaluation Results

Participants revealed that the programs helped them personally and that the program served its purpose. Participants felt that the programs were a success. The overall rating of the programs were excellent.

Agent knowledge was assessed by evaluation tools specific to the content provided at each training. The evaluation database was used to assess changes in knowledge and intent to change behavior by county agents at the time of the educational intervention. In addition, two major program evaluations were conducted. Participants in a 2-hour financial literacy class mandated for individuals that have filed for bankruptcy completed a pre-test and a post-test with a selected portion receiving a follow-up survey to measure behavior change. Participants in a 10-hour financial literacy training completed a retrospective evaluation upon completion of the workshop.

Key Items of Evaluation

Program #7

V(A). Planned Program (Summary)

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
501	New and Improved Food Processing Technologies	12%	12%	12%	12%
503	Quality Maintenance in Storing and Marketing Food Products	13%	13%	13%	13%
601	Economics of Agricultural Production and Farm Management	4%	4%	4%	4%
607	Consumer Economics	2%	2%	2%	2%
609	Economic Theory and Methods	5%	5%	5%	5%
711	Ensure Food Products Free of Harmful Chemicals, Including Residues from Agricultural and Other Sources.	4%	4%	4%	4%
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins	24%	24%	24%	24%
722	Zoonotic Diseases and Parasites Affecting Humans	4%	4%	4%	4%
723	Hazards to Human Health and Safety	32%	32%	32%	32%
	Total	100%	100%	100%	100%

V(C). Planned Program (Inputs)

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

Year: 2008	Extension		Research	
	1862	1890	1862	1890
Plan	4.0	0.0	0.0	0.5
Actual	3.9	0.3	4.2	9.8

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

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
333722	73611	421775	1048447
1862 Matching	1890 Matching	1862 Matching	1890 Matching
333722	73611	421775	1048447
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

Three main research activities have been performed: (1) development and quality evaluation of goat milk infant formula analogues, (2) development and quality evaluation of reduced-fat goat milk cheeses, and (3) development and quality evaluation of plain goat milk yoghurt.

We conducted a delphi survey to collect information and established one farm to table stochastic model.

Research findings were presented at an international conference and at the SunBelt Expo. Following grant proposals were developed and submitted in the year 2008: "Control of E. coli O157:H7 in spinach using low voltage current, $1996.00 (President's Research Mini Grants," "FVSU bioenergy career preparation program, $67,000.00 (ICAPP GeorgiaHIRE), "Investigations to establish Paulownia as a feasible bioenergy tree crop, $350,000.00 (SunGrant Initiative pre-proposal). Liason was established with the University of Georgia and North Dakota State University. Two undergraduate student workers were supported. Two high school students were trained in conducting experiments, analyzing results, report writing and presentation.

Educational programs were conducted with various clientle groups such as mosquito control, public health personnel and county extension personnel. Research in vector biology and control of vector species is ongoing in Georgia.

Research was conducted on consumer demand for organic produce, for irridated meat products, and Georgia pecans.

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. 6)
Consumer resources were developed and distributed both in print and on-line. 7) Curriculum packages, lesson plans, and other food safety teaching tools were developed and disseminated to Extension Agents for use in county programming. 8) News releases, newspaper articles and radio scripts were developed for agent use with media outlets in local communities.

Activities included isolation, purification and identification of the bitter compound. We are developing an isolation technique for the purification and identification of the compound. Utilizing an extremely bitter breeding line furnished by a commercial onion breeding program, we have extracted 50# of onion bulbs, purified the bitter compound via three chromatography techniques. Individual fractions are assessed for bitterness at each step. HPLC-MS analysis of the purified fraction indicates that due to the extremely low levels of the compound, sufficient background material remains, preventing positive identification. Additional purifications steps are in progress.

Three basic HACCP workshops and one advanced HACCP workshop were delivered in 2008 for the meat and poultry industry; one workshop tailored to the fresh-cut produce industry was also delivered. The in-plant microbial control workshop scheduled for June was cancelled due to insufficient participation. All other scheduled workshops were also held.

We have studied the rheology of pectin solutions containing montmorillonite nanoparticles. We have also characterized the proton spin relaxation behavior and zeta-potential and particle size in these solutions. We attempted to characterize the microstructure with transmission electron microscopy; however, we were unsuccessful with this work. We were successful in elucidating differences in clay structure in these solutions by wide angle X-ray diffraction.

2. Brief description of the target audience

Target Audience includes: Food Processors, Crop Producers, energy firms, all citizens of Georgia and the region, organic produce and pecan industries, meat processors, Vidalia onion producers.

Specialists will target primarily Extension Agents. Extension Agents will target adult and youth consumers, foodservice employees, care providers, volunteers and media with food safety education.

Food industry managers, quality assurance, HACCP coordinators, microbiologists, third-party auditors; fresh produce growers, shippers, packers and processors, and government inspectors.

University, government, and industry scientists with a focus on those performing research and product development.

V(E). Planned Program (Outputs)

1. Standard output measures

Target for the number of persons (contacts) reached through direct and indirect contact methods

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
Plan	250	30	0	0
2008	4302	2004610	214	300

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

Patent Applications Submitted

Year	Target
Plan:	0
2008 :	0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

	Extension	Research	Total
Plan	0	0	
2008	0	0	14

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
2008	6000	30410

Output #2

Output Measure

- Number of significant publications

Year	Target	Actual
2008	8	46

Output #3

Output Measure

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

Year	Target	Actual
2008	2	2

Output #4

Output Measure

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

Year	Target	Actual
2008	685	75

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	Research of dairy goat milk
5	Service learning in the food industry

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 for this Annual Report

Outcome #2

1. Outcome Measures

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

2. Associated Institution Types

•1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	1	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
607	Consumer Economics
501	New and Improved Food Processing Technologies
609	Economic Theory and Methods
503	Quality Maintenance in Storing and Marketing Food Products
711	Ensure Food Products Free of Harmful Chemicals, Including Residues from Agricultural and Other Sources.
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins
601	Economics of Agricultural Production and Farm Management
722	Zoonotic Diseases and Parasites Affecting Humans
723	Hazards to Human Health and Safety

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
2008	1	25

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
601	Economics of Agricultural Production and Farm Management
501	New and Improved Food Processing Technologies
503	Quality Maintenance in Storing and Marketing Food Products
723	Hazards to Human Health and Safety
711	Ensure Food Products Free of Harmful Chemicals, Including Residues from Agricultural and Other Sources.
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins
722	Zoonotic Diseases and Parasites Affecting Humans
609	Economic Theory and Methods

Outcome #4

1. Outcome Measures
Research of dairy goat milk

2. Associated Institution Types

•1890 Research

3a. Outcome Type:
Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	{No Data Entered}	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

Through this research work, at least the major nutrients such as milk fat and protein in goat milk have been successfully simulated to those in human milk. The new technologies were used for milk fat and protein simulations such as enzymatic interesterification, structured lipids using sn-1,3-specific lipase lipozyme RM IM microbial enzyme, and ultrafiltration of goat milk proteins, which contributed to the successful outcomes of this project toward humanization of major milk nutrients. With this research, the Principal Investigator also has been able to produce a Ph.D. student at the Department of Food Science & Technology, University of Georgia, Athens, GA, who finished Ph. D. degree in 2007 by undertaking part of this research project as her Ph. D. dissertation research and experimentations. This is a real positive impact gained from this project and its resources in education and production of minority food scientist.

4. Associated Knowledge Areas

KA Code	Knowledge Area
711	Ensure Food Products Free of Harmful Chemicals, Including Residues from Agricultural and Other Sources.
501	New and Improved Food Processing Technologies
601	Economics of Agricultural Production and Farm Management
503	Quality Maintenance in Storing and Marketing Food Products

Outcome #5

1. Outcome Measures

Service learning in the food industry

2. Associated Institution Types

- 1890 Extension
- 1890 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	{No Data Entered}	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

Undergraduate students from Ag Eng Tech program participated and gained hands-on experience in food safety research using the state of the art Lab equipment. In addition, high school students were trained in conducting experiments, analyzing results, and in report writing for her science project. One student's project received 2nd place at the GA Science & Eng Fair (Feb 08, UGA, Athens).

4. Associated Knowledge Areas

KA Code	Knowledge Area
711	Ensure Food Products Free of Harmful Chemicals, Including Residues from Agricultural and Other Sources.
723	Hazards to Human Health and Safety
501	New and Improved Food Processing Technologies

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

1. Economy: The external funding for my research has been expired, so that funds have not been available to support graduate students' assistantships for their research activities. These economic hardships prevented the research from continuation of simulation of goat milk to human milk. 2. Competing Public Priorities: Lack of support by the government in dairy goat products research, probably resulted from competing public priorities on cow milk research due to the cow milk driven society and public priorities. 3. Competing Programmatic Challenges: Recent surge and governmental research supports/emphasis on biotechnology, genetic engineering and stem cell research programs have been extreme challenges to dairy goat research for enhancing limited small goat farmers. Therefore, continuous research productivity has been in huge competition and perhaps discouraging external factors for dairy goat products research. The PI of this dairy goat products research has submitted grant proposals to funding agencies such as Georgia FoodPAC and SARE/USDA funding programs, but the proposals have not been funded.

The economy as a whole and the possible new government regulations from new administration will affect the outcome.

Drought did impact mosquito breeding in pond and container breeding environments for mosquitoes as well as black flies were reduced by low stream flows. State budget cuts in FY09 impacted outcomes.

Population changes in Georgia are likely to affect food demand over time.

Regulations requiring certification of restaurant managers/designated employee increased demand for ServSafe training.

Lack of funds is the major deterrent to rapidly identifying the compound.

Tightened budgets in the food industry reduced attendance in 2008. One scheduled workshop was cancelled due to insufficient numbers.

Use of nanoparticles in food applications is becoming more acceptable with a recent government approval of montmorillonite in packaging (indirect contact only). Still, most of the focus is on safety, and this tends to set the priorities for funding related to nanocomposites.

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)
- During (during program)
- Time series (multiple points before and after program)

Evaluation Results

The progresses of the research project have been evaluated by the appointed committee members, especially during the PI's Ph. D. student final oral exam period in 2007. Consumer acceptability studies at local retail outlet stores have not conducted due to lack of student assistance. Descriptive sensory studies on the developed goat cheese were once conducted at public gathering such as annual Agriculture Expo in Moultrie, GA. Since the project is far from completion, the two planned evaluations have not conducted, which include: #1. Estimate the volume of marketing and sale of the developed dairy goat products from this program. #2. Survey of the economic gains of the limited resources goat farmers after the planned project executed. However, several refereed journal papers have been published and several paper presentations made at the annual scientific conferences using the data generated so far from the experiments conducted for the project. Sensory quality of five year frozen-stored Monterey goat cheeses has been evaluated by sensory panel of collaborating institution, North Carolina State University. Moreover, the acceptability and sensory/flavor characteristics of the reduced-fat cheeses are currently investigated by the professional sensory panel by the same collaborating institution.

The evaluation findings included the lack of information available and the inconsistence in the data. Also, there is an urgent need to establish the Farm-to-Table model along the meat supply chain

Evaluation forms were provided to participants in training programs. Evaluation results are considered as future program activities are developed.

Evaluation studies are still ongoing.

Agent knowledge was assessed by written tests specific to the content provided. In some instances, pre- and post-tests were used to assess knowledge gained. In ServSafe trainings, agents were administered the certification exam from the Educational Foundation of the National Restaurant Association.

Overall evaluations from participants were consistently high again in 2008. The results of the evaluations were distributed to all speakers, and reviewed during program planning for the 2009 calendar year.

Thus far, one student has completed their MS in Food Science and Technology while working on this project. We are in the process of submitting two papers from this work, and are planning to continue some of the experiments from that student's work to polish off a third paper. This student also presented at the most significant national conference in this area. Further evaluation of this project will continue to rely on these criteria.

Key Items of Evaluation

Program #8

V(A). Planned Program (Summary)

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	30%	30%	30%	30%
804	Human Environmental Issues Concerning Apparel, Textiles, and Residential and Commercial Structures	70%	70%	70%	70%
	Total	100%	100%	100%	100%

V(C). Planned Program (Inputs)

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

Year: 2008	Extension		Research	
	1862	1890	1862	1890
Plan	1.0	1.0	0.0	0.0
Actual	3.2	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
275234	294445	0	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
275234	294445	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

Our program offered a series of homebuyer education workshops throughout the year to interested consumers to help raise consumer awareness of programs available to assist with homeownership needs. Additionally, the program will hosted a statewide housing conference for housing professionals to raise the awareness of Georgia's rural housing needs and provided them with information on the various financial and technical resources available for housing development in the state.

Educational materials and resources have been translated into Spanish to better serve the audiences in the communities we serve. Agents worked closely with USDA and local lenders to provide housing education.

New educational materials on water conservation and natural gas were developed. Education and information was provided to consumers in group programs, presentations, fairs and individual meetings.

Publications and news articles were distributed to agents for use in local programs and media outlets. UGA received funding from the National Center for Healthy Housing to provide trainings and information on lead safe work practices for consumers and contractors. Two workshops for contractors were conducted along with participation in 4 health/community fairs. Outreach in radon remains an important part of the program.

2. Brief description of the target audience

Fort Valley State University's Cooperative Extension Program serves the needs of minorities that are classified as limited-resource clientele.

The primary audience for the specialists is the county agents, who take the information into the communities they serve where it is disseminated to the general public.

V(E). Planned Program (Outputs)

1. Standard output measures

Target for the number of persons (contacts) reached through direct and indirect contact methods

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
Plan	410	15000	60	0
2008	337	195	68	0

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

Patent Applications Submitted

Year	Target
Plan:	0
2008 :	0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

	Extension	Research	Total
Plan	0	0	
2008	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
2008	860	457

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
2008	100	357

Output #3

Output Measure

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

Year	Target	Actual
2008	12	8

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.

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
2008	120000	60694

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
801	Individual and Family Resource Management

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

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	80	92

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

Radon education reached nearly 900 consumers, with 402 mitigating their homes. Ongoing funding for radon educators provides the resources to reach more Georgians. A young person recently won the national radon poster award. This indicates that we are reaching both adults and youth with this timely message.

4. Associated Knowledge Areas

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

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.

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	40	30

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
801	Individual and Family Resource Management

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

3a. Outcome Type:
Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	42	87

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

Natural gas educators reach thousands of consumers, many of whom are senior citizens. They often work individually with senior citizens to help them read and understand their gas bills. This can help them reduce monthly expenses. Household water conservation programs reached over 700 school cafeteria workers, providing valuable information on how to reduce water use at work.

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

•1890 Extension

3a. Outcome Type:
Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	10	15

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

A barrier to sustainable homeownership is the inability to afford entry costs to purchase the house. Eighty percent (80%) of blue-collar workforce in Georgia are not aware of programs for low-income and first time homebuyers. In Georgia, one in four households making 80 percent or less of the area median income spends 50 percent or more of their income on housing. Georgia remains in the top ten states with high foreclosure rates. Class evaluations revealed 90% felt it was helpful for them to learn about the availability of special mortgage programs and housing and credit counseling. 30% of participants were able to purchase their first home; 17% of the participants were able to obtain down payment assistance or a loan from a government office (i.e., HUD, USDA, DCA).

In one south Georgia community, over 25 families purchased homes in the past three years. Also, several new positive relationships were developed between the Hispanic community and public and law enforcement officials.

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

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

There are various outcomes, negative and positive,that have occured based upon the following external factors. Most notably the downward trend in the economy has positively affected the outcome. Clients are afraid of being vicitimized by predatroy lenders and facing default and are therefore, attending the classes to educate themselves.

The collapse of several financial institutions and the job market contributed to rising foreclosures and bankruptcies. The downturn impacted availability of credit for consumers and builders of affordable housing. There has been an increased need for education on money and credit management to avoid foreclosure.

The ongoing drought and fluctuating energy prices resulted in a high demand for programs on conserving these resources.

Interest in lead safety as it relates to imported toys, candy and cooking vessels has risen. In addition, changes in federal regulations will require training contractors on how to safely remove lead in remodeling projects. UGA provided training for contractors and builders and will continue to do so in the upcoming year.

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

At the beginning and at the conclusion of each homebuyer education series a test was adminstered beforehand to gauge clients knowledge prior to completing the class, and then the same test was given at the conclusion of the series to see if the test scores increased. On average individual test scores increased.

Agent trainings were assessed informally during the program to guide the program and make sure gaps in knowledge were addressed. An informal survey method was used with workshop and counseling participants. In about half of the workshops an evaluation tool was used.

Programs were evaluated at the end, so there was no way to measure knowledge gained. This method of evaluation was selected because energy and water programs tend to be one hour or less in length. Also, most participants come to the program with a great deal of knowledge about the issues because of widespread media attention. Water conservation programs reached 978 Georgians.

Pre- and post-tests were administered to 111 people. Of those evaluated, 92% showed an improvement in knowledge. Of the radon tests distributed, 898 consumers tested their homes and 402 mitigated for radon.

Key Items of Evaluation

Program #9

V(A). Planned Program (Summary)

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	4%	4%	4%	4%
102	Soil, Plant, Water, Nutrient Relationships	7%	7%	7%	7%
104	Protect Soil from Harmful Effects of Natural Elements	7%	7%	7%	7%
111	Conservation and Efficient Use of Water	13%	13%	13%	13%
112	Watershed Protection and Management	17%	17%	17%	17%
131	Alternative Uses of Land	7%	7%	7%	7%
133	Pollution Prevention and Mitigation	21%	21%	21%	21%
141	Air Resource Protection and Management	7%	7%	7%	7%
403	Waste Disposal, Recycling, and Reuse	13%	13%	13%	13%
511	New and Improved Non-Food Products and Processes	4%	4%	4%	4%
	Total	100%	100%	100%	100%

V(C). Planned Program (Inputs)

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

Year: 2008	Extension		Research	
	1862	1890	1862	1890
Plan	8.5	0.5	11.0	1.2
Actual	15.5	0.0	17.6	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
1333165	0	1769544	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
1333165	0	1769544	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

Biomicrometeorology - This program examines the surface-atmosphere exchange of gases, turbulence and is generally focused on the exchange between the vegetated-canopy layer and its environment. Molecular

Environmental Science - This research area is focused on providing a fundamental understanding of the processes controlling the cycling, transport, and bioavailability of nutrients and contaminants in the environment. Combining these capabilities with molecular biological (Aomics@) tools is providing new insights into the coupled physical, chemical, and biological processes and mechanisms controlling nutrient and contaminant behavior in the environment.

Nutrient Management - Nutrient management research focuses on the biological and chemical pathways of nutrient cycling in soils, including how environmental factors affect the rates of nutrient cycling. Research methodologies include remote sensing methods and other protocols for mapping the spatial variability of soil properties, ammonia volatilization from surface applied urea fertilizer and animal manures and the development of better methods for the routine determination of soil pH and lime requirement.

Remediation - This area includes abiotic remediation and phytoremediation. Iron in conjunction with metal sulfides has been used for the effective remediation of halogenated solvents in groundwater. Areas of research in phytoremediation include: the use of macrophytes Schoenoplectus californicus and Typha angustifolia in a pilot constructed wetland for sorption and bio-concentration of mercury, selinium, and arsenic in wastewater, trials using cattail and other wetland species to study remediation of aniline and nitrobenzene derivatives in highly contaminated ground waters of an abandoned chemical plant, sorption of TNT and other explosives on humic-clay mineral complexes, and the use of mushroom compost extract to increase the bioavailability and subsequent biodegradation of high concentrations of PAHs.

Soil Biology and Biochemistry - This area investigates the influences of biological activity on soil structure and function. One focus of research is to understand how soil invertebrates (especially earthworms) affect water-stable aggregate formation and the associated turnover and accumulation of soil organic matter and nutrients. Another research area aims at understanding how microorganisms influence the soil environment, specifically the regions directly surrounding a microbial population. Research tools include standard soil microbiology techniques to study microbial life and soil organic matter, as well as the more advanced techniques of compound specific isotope analysis, nuclear magnetic resonance spectroscopy, and DNA-based methods. In addition to basic understanding of soil processes, these focus areas have implications for environmental quality, conservation management and carbon-sequestration in agricultural and forest soils. Soil Pedology: Faculty in Pedology conduct research on the genesis, landscape distribution, and interpretation of soils. An understanding of the processes important to formation and distribution of soils and features across the landscape is the basis for better interpretation of soil suitability for agricultural, silvacultural, and urban uses. Current research is focused on developing a more comprehensive understanding of hydraulic properties of soils and better methods to estimate these properties from soil and landscape properties including investigations of the relationships between redoximorphic features and depth and duration of seasonal saturation; and soil-landscape relationships and their effect on landscape redistribution of water.

Waste Management - The faculty in the waste management area conduct research on land application of industrial and animal wastes (by-products). Industrial by-products studied include coal combustion wastes (fly ash, gypsum), pulp and paper mill wastes, and sewage sludge. Fly ash and ash-organic mixtures have been evaluated as soil amendments and potting mixes and gypsum (CaSO4) was shown to ameliorate aluminum toxicity effects on turf grasses. Animal wastes include different poultry manures, which are by-products of the large poultry industry in Georgia. Research objectives aim at understanding the chemistry of nutrients, trace metals and organic contaminants in these by-products, and preventing soil/water/crop contamination from land application. The waste management area includes a focus on on-site wastewater (septic) management systems. The purpose is to improve the effectiveness of these systems in treating wastewater. Work in this area has focused on the effect of biomats on water movement from drainfield trenches, the development of state regulations governing on-site systems, and the use of computer models to compare alternative systems.

Water Resources - The effect of non-point sources of pollution on surface water quality is a primary focus. The primary pollutants of concern are phosphorus, sediment, and bacteria. The purpose of the research is to determine the sources of pollution and what effect best management practices (BMPs) have in reducing pollutant loads. Research has also focused on water conservation options through management changes, including turfgrass water management, conservation tillage in row crop areas, and irrigation scheduling for all areas through improved sensing and prediction of soil water deficits and rainfall. Water resource limitations of the state’s aquifers and rivers has been the focus of another effort to aid the state in predicting the impact of water withdrawals on stream flows and groundwater levels.

Both new and enhanced processes for treatment and utilization of animal manures will be provided to producers through extension and continuing education activities.

Georgia participates in several regional coordination meetings and conferences and attended the national program meeting in 2008, and provided leadership in several areas. We led national and regional efforts in the area of animal waste management. At the national level, the Livestock and Poultry Environmental Learning Center was created and offered numerous webcasts and training opportunities (See www.extension.org/animal+manure+management). The regional team hosted four sessions and a workshop at the Southern Region Water meeting in 2007 and hosted two regional workshops in 2008. The Georgia project team was involved in each of the region's three focus areas. Regional tools that insure that CAFO's and other individuals developing nutrient management plans can do so as easy as possible were developed and distributed. UGA faculty were also very involved in regional efforts related to drinking water and human health where an interactive

multi-media educational video using down-well video camera photography to educate well owners on the importance of proper well construction and maintenance was created. UGA faculty supported regional efforts for on-site treatment and community Wastewater/Solid waste management. UGA also hired our first Watershed agent that provided an education network in the Upper Oconee watershed. UGA faculty were involved in numerous projects providing watershed education at the local level and facilitating the development of effective resources that focus on TMDL implementation, modeling, and nutrient trading programs.

The team continued to provide mandated certification workshops for operators and planners. Numerous meetings were conducted locally on using animal manures as fertilizer in response to high input costs. Faculty have worked with a wide variety of audiences including policy makers, youth, farmers, and concerned citizens.

Ecosystem services, land application of manure, irrigation management, provision of recreational trails, and management of waters for ecosystem services in the midst of a drought have been assesed to estimate their economic value. Regulations have been examined with respect to irrigation management, stream and water management, and public good provisions to see how optimal mechanisms can be designed to maximize the net public benefits.

2. Brief description of the target audience

The primary extension audiences are county agents, farmers, growers, industry representatives, environmental professionals, consultants, contractors, media, regulatory and policy representatives, and scientific peers.

These programs have the potential to impact all Georgians. While farmers and rural audiences will be the primary focus for most activities, urban audiences, county agents, county government officials, regulatory agency personnel, and consultants and other professionals will also be impacted.

Public sector (federal and state) decision-makers, environmental concerns and interest groups, natural resource users.

V(E). Planned Program (Outputs)

1. Standard output measures

Target for the number of persons (contacts) reached through direct and indirect contact methods

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
Plan	3500	15000	100	100
2008	3930	11500	390	490

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

Patent Applications Submitted

Year	Target
Plan:	1
2008 :	0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

	Extension	Research	Total
Plan	0	0	
2008	0	0	53

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
2008	310	202

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
2008	2900	790

Output #3

Output Measure

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

Year	Target	Actual
2008	68	46

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	Collaborative research projects with the Natural Resources Conservation Service and the Georgia Soil and Water Conservation Commission

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
2008	12000	91051

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

There are 59 impact statements related to water in the State database. Some of the best that are directly attributable to this program include: Master Gardener Training: The University of Georgia Center for Urban Agriculture Water Issue Team and the UGA WaterSmart Banner Program worked with Alabama and South Carolina to put together a multi-state Advanced Master Gardener Training called Advanced Concepts in WaterSmart Landscape Design. Thirty-six Augusta Area Master Gardeners participated in the Advanced Training. In surveys following the training sessions, Master Gardeners said they will certainly be better stewards of the water they use in the landscape and of the environment. They will also teach other people about conserving water in the landscape and on the impact of runoff. The Master Gardeners should save an average of 20 to 25 percent on their irrigation bills after they install rain sensors on their system and they will encourage other people to install them on their systems. Animal Waste Specialist 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. UGA 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. Conserve Water: Water is usually plentiful in southwest Georgia, but in the past year, drought conditions across the state have raised concerns about how to manage and use water. Because of the severe drought conditions, Governor Sonny Perdue ordered utility companies and others permitted by the state Environmental Protection Division to reduce water usage by 10 percent. He also asked state agencies to reduce their water consumption by 10 to 15 percent. To help ensure a clean, abundant water supply for the future, Mitchell County 4-H chose to educate Mitchell County youth, grades 5 through 12, about the importance of water. Emphasis on water and water education was presented at the Mitchell County 4-H2O Day Camp. Mitchell County 4-H collaborated with staff from the University of Georgia C. M. Stripling Irrigation Research Park and the Albany RiverQuarium on the Mitchell County 4-H2O Day Camp efforts. Programming at 2008-09 4-H in-school meetings will be on water conservation. Plans are being made for 4-H'ers to enter the River of Words Poetry and Art contest and to lead a stream cleanup in Mitchell County. Georgians Conserve Landscape Water: In October of 2007 the Environmental Protection Division director declared a Level 4 drought in 61 counties of north Georgia in which no outdoor watering would be allowed. The Urban Agriculture industries immediately began e

4. Associated Knowledge Areas

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

Outcome #2

1. Outcome Measures

Percentage of program participants reporting increased knowledge after program participation.

Not reporting on this Outcome for this Annual Report

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 for this Annual Report

Outcome #4

1. Outcome Measures

Collaborative research projects with the Natural Resources Conservation Service and the Georgia Soil and Water Conservation Commission

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	{No Data Entered}	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

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. UGA 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 UGA 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.

4. Associated Knowledge Areas

KA Code	Knowledge Area
133	Pollution Prevention and Mitigation
104	Protect Soil from Harmful Effects of Natural Elements
112	Watershed Protection and Management
111	Conservation and Efficient Use of Water
131	Alternative Uses of Land
102	Soil, Plant, Water, Nutrient Relationships
101	Appraisal of Soil Resources

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

Because of the drought, more emphasis was placed on water conservation issues and less on water quality issues than the planned initially called for.

Regulations and the interpretation and enforcement of the rules is constantly evolving and impacting our programs. The increases in fertilizer prices is positively influencing the value of animal manures and increasing off-farm demand. In addition, the national push for biofuels is influencing nutrient management as animal diets are changing due to the high costs of corn. Finally, drought has impacted many producers as some have cut herd sizes due to a lack of feed. The economy is also causing hardships for producers resulting in less funding available for on-farm environmental improvements.

Drought conditions in Georgia led to examination of how to best manage water resources in a drought to protect human uses and the value of ecosystem services. Government regulations were key to designing best management practices for manure land applications.

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

In Georgia, we did not conduct evaluation studies in 2007 although we contributed to regional evaluation efforts that are available on the website above. In 2008, we continued to contribute to regional evaluation efforts and launched an evaluation of our State water conservation efforts, however, this evaluation is ongoing.

Most of the feedback has been positive. County agents and other stakeholders continue to request assistance through the program which indicates some level of satisfaction in the service they receive.

Irrigation management projects and the valuation of various non-market goods are continuing to be evaluated to see if the recommendations made are accurate and being adopted.

Key Items of Evaluation

Program #10

V(A). Planned Program (Summary)

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
307	Animal Management Systems	20%	20%	20%	20%
308	Improved Animal Products (Before Harvest)	5%	5%	5%	5%
311	Animal Diseases	15%	15%	15%	15%
501	New and Improved Food Processing Technologies	5%	5%	5%	5%
502	New and Improved Food Products	5%	5%	5%	5%
503	Quality Maintenance in Storing and Marketing Food Products	10%	10%	10%	10%
601	Economics of Agricultural Production and Farm Management	5%	5%	5%	5%
603	Market Economics	5%	5%	5%	5%
609	Economic Theory and Methods	20%	20%	20%	20%
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins	10%	10%	10%	10%
	Total	100%	100%	100%	100%

V(C). Planned Program (Inputs)

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

Year: 2008	Extension		Research	
	1862	1890	1862	1890
Plan	0.0	0.8	0.0	4.0
Actual	0.1	0.0	0.0	4.3

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

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
8604	0	0	457011
1862 Matching	1890 Matching	1862 Matching	1890 Matching
8604	0	0	457011
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 for clients. Tutorial was developed

Niche markets of goat meat were identified, and examinations of goat meat attributes and consumer preference were completed.

All sample and data analysis were completed for the feed deprivation experiment. Thirty-two Boer × Spanish goats were randomly assigned to one of 4 feed deprivation times (FDT; 0, 9, 18, or 27 h) before slaughter. Blood samples were collected to analyze for metabolites prior to slaughter. Immediately after slaughter and evisceration, the pH values of rumen liquor and cecal digesta were determined. Rumen and rectal digesta were collected and transported to the laboratory for culture and determination of microbial load. Initial pH of Longissimus muscle (LM) was determined at 15 min postmortem on each carcass. Swab samples were collected from skin and carcass of each animal to assess the bacterial load. The FDT did not influence glucose, plasma urea nitrogen, non-esterified fatty acid, and creatine kinase activities. The 27-h FDT group had higher rumen pH than 0 h or 9 h FDT groups. However, the microbial counts of rumen and fecal contents were not influenced by FDT. The FDT had no effect on the initial (pH 6.87) of LM. Both skin and carcass microbial counts were not affected by FDT. The E. coli, total coliform counts, and aerobic plate counts on skin were 1.13, 1.49, and 3.78 log10CFU/cm2, respectively, and those on carcasses were 1.51, 1.65, and 3.11 log10CFU/cm2, respectively. The results indicate that pre-slaughter FDT alone up to 27 h may not significantly affect blood metabolites and skin and carcass microbial loads on goats.

Goat myostatin gene loci was partially characterized

A survey instrument for meat goat producers was developed. One major goat processor in north Georgia was contacted but he was not cooperative. Also, halal meat goat retailers were contacted. These contacts were meant for the researcher to introduce himself to the various participants in the meat farmers. A database for small farmers was developed.

2. Brief description of the target audience

Target audiences included: all small ruminant and meat goat producers in the state, scientists, general public, biotech companies, students and the animal producers.

V(E). Planned Program (Outputs)

1. Standard output measures

Target for the number of persons (contacts) reached through direct and indirect contact methods

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	**Target**	**Target**	**Target**	**Target**
Plan	50	100	0	0
2008	300	2000	0	0

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

Patent Applications Submitted

Year	Target
Plan:	1
2008 :	0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

	Extension	Research	Total
Plan	0	0	
2008	0	3	3

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

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

Year	Target	Actual
2008	3	10

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 farmers using best herd health and parasite management practices.
3	Percentage of decrease in herd production losses.
4	Number of farmers learning control techniques.

Outcome #1

1. Outcome Measures

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

2. Associated Institution Types

•1890 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	2	1

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
308	Improved Animal Products (Before Harvest)
601	Economics of Agricultural Production and Farm Management
311	Animal Diseases
609	Economic Theory and Methods
307	Animal Management Systems
502	New and Improved Food Products
503	Quality Maintenance in Storing and Marketing Food Products
603	Market Economics
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins
501	New and Improved Food Processing Technologies

Outcome #2

1. Outcome Measures

Number of farmers using best herd health and parasite management practices.

2. Associated Institution Types

•1890 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	{No Data Entered}	100

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

On-going collaboration between UGA (Veterinary College) and FVSU small ruminant Center scientists through the Southern Consortium for Small Ruminant Parasite Control created by collaborative efforts during the past 10 years.

4. Associated Knowledge Areas

KA Code	Knowledge Area
501	New and Improved Food Processing Technologies
311	Animal Diseases
502	New and Improved Food Products
307	Animal Management Systems
308	Improved Animal Products (Before Harvest)
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins

Outcome #3

1. Outcome Measures

Percentage of decrease in herd production losses.

2. Associated Institution Types

•1890 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	{No Data Entered}	50

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

Small Ruminant (Goats and Sheep) Internal Parasite Losses. Commercial goat or lamb production in Georgia is not sustainable without improved methods of internal parasite (worms) management methods. In recent years the rates of mortality and poor growth has been increasing as indigenous worm population become resistant of the chemical agents of control. FVSU Extension specialists working with research scientists in Georgia and across the southern U.S. determined that a new approach was needed and that producers and Extension agents needed to be trained in this new approach known as Smart Drenching. A training manual was developed via FVSU lead and training sessions implemented. In Georgia more than 10 trainings occurred in 2008. The impact was to reduce mortality from 25 percent among kids and lambs, to closer to 10 percent in those herds and flocks owned by people participating. Monetary value of this is estimated to be close to $12,000.

4. Associated Knowledge Areas

KA Code	Knowledge Area
308	Improved Animal Products (Before Harvest)
307	Animal Management Systems
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins
502	New and Improved Food Products

501	New and Improved Food Processing Technologies
311	Animal Diseases

Outcome #4

1. Outcome Measures

Number of farmers learning control techniques.

2. Associated Institution Types

•1890 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	{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
502	New and Improved Food Products
307	Animal Management Systems
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins
501	New and Improved Food Processing Technologies
311	Animal Diseases
308	Improved Animal Products (Before Harvest)

V(H). Planned Program (External Factors)

External factors which affected outcomes

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

Brief Explanation

The outcome of this program may be affected by many factors, but population changes will be the major one. With more non-white immigrants and increasing percentage of old population in the coming years, there will be more demand for goat meat.

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.

Natural disasters may affect the animal health and pregnancy status and thus ultimately the outcome of the study. Government regulations may delay the animals to be brought to food supply.

Lack of farmers willingness to participate in the project.

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

1. Evaluation Studies Planned

- Before-After (before and after program)
- During (during program)
- Time series (multiple points before and after program)
- Comparisons between program participants (individuals,group,organizations) and non-participants
- Other (Customer Surveys)

Evaluation Results

We reexamined the data we used in the previous publication, added new information from USDA source into our dataset, and exchange our findings with other professionals through presentation and publications.

Ideal preslaughter management methods can be identified and recommended to the producers only after completion of all aspects (objectives) of the study. Consumer surveys on demographic factors affecting chevon consumption have been conducted during the annual Subelt Expo at Moultire, GA.

The evaluation of the project includes the development and implementation of the survey instruments, analyses of data, and distribution of the various outputs that address the questions in the objectives of the proposal.

Key Items of Evaluation

Program #11

V(A). Planned Program (Summary)

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
102	Soil, Plant, Water, Nutrient Relationships	4%	4%	4%	4%
133	Pollution Prevention and Mitigation	4%	4%	4%	4%
201	Plant Genome, Genetics, and Genetic Mechanisms	8%	8%	8%	8%
202	Plant Genetic Resources	31%	31%	31%	31%
203	Plant Biological Efficiency and Abiotic Stresses Affecting Plants	11%	11%	11%	11%
204	Plant Product Quality and Utility (Preharvest)	11%	11%	11%	11%
205	Plant Management Systems	19%	19%	19%	19%
206	Basic Plant Biology	4%	4%	4%	4%
212	Pathogens and Nematodes Affecting Plants	8%	8%	8%	8%
	Total	100%	100%	100%	100%

V(C). Planned Program (Inputs)

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

Year: 2008	Extension		Research	
	1862	1890	1862	1890
Plan	0.0	0.0	7.0	1.5
Actual	0.1	0.0	10.4	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
8605	0	1043126	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
8605	0	1043126	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

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.

Cereal breeding/genetics/genomics--This program develops wheat, rye, oats, triticale, and barley cultivars and germplasm adapted to the Southeast's climatic conditions, with superior grain and forage yield, agronomic traits, durable pest resistance, and end-use quality. Comparative grass genomics - This program develops cross-taxon genomic tools for a wide range of cereals, genetic tools for finger millet, comparative functional analyses of agronomically important genes, and understanding the organization and evolution of Triticeae genomes. Crop genomics--Genomics research reveals basic principles of genetics and evolution in the genomes of model organisms, and accelerate assembly of the genomic frameworks that will permit such principles to be applied to the study and improvement of major crops. Cotton breeding/genetics/genomics- This program develops genetically improved cotton germplasm using classical breeding techniques with a focus on new biotechnology tools such as DNA markers and gene transformation technology. Forage breeding/genetics/genomics--This program breeds superior alfalfa and forage grass species for Georgia and the Southeast. Apply genomic approaches are used to improve the efficiency and effectiveness of cultivar development. Legume transgenics - This program develops technology to facilitate genetic engineering of crop plants, deployment of transgenes of agronomic importance, and development of improved agronomic crops. Peanut breeding/genetics/genomics- This program breeds superior peanut cultivars for Georgia and the Southeast and genetics of important agronomic traits in peanut. The development of molecular tools and information is also undertaken to reveal intrinsic genetic potential and support more efficient cultivar development. Soybean breeding/genetics/genomics - This program develops superior yielding, multiple pest resistant soybean cultivars, utilizes molecular technologies to improve the efficiency of soybean cultivar development, identifies and characterizes useful genetic variation for soybean improvement. Sunflower and specialty oil breeding/genetics/genomics-- This program applies breeding and cultivar development in novel oilseeds and sunflower and uses molecular techniques and translational and comparative genomics in sunflower, peanut, and other oilseeds. Turfgrass breeding/genetics/genomics - This program breeds superior warm-season turfgrass cultivars of bermudagrass and centipedegrass with lower water, pesticide, and management requirements and vegetative and seeded seashore paspalum cultivars with tolerance to salinity and other stresses. Cool season grasses, including tall fescue and bentgrass with disease and stress tolerance are developed. Molecular tools are used to reveal intrinsic genetic potential and support more efficient cultivar development.

Successfully injected the grape strain of Xylella fastidiosa into more than 3000 vines in June 2008 for the selection of Pierce's disease (PD) tolerant varieties for wine-making purposes. The vines that survived will be selected in spring 2009 to be used as candidates for carrying PD tolerant genes for future backcross for eventual success of breeding wine-making grapes for Southeastern US including our State.

Field days continue twice a year, new crops continue to be introduced through the Athens Select Program. New genetic material is presently being evaluated for 2009-2010.

One cultivar, 'Byrd', has been submitted and accepted for release.

2. Brief description of the target audience

Target audience includes:Georgia pecan growers, blueberry growers and other industry professionals.

V(E). Planned Program (Outputs)

1. Standard output measures

Target for the number of persons (contacts) reached through direct and indirect contact methods

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	**Target**	**Target**	**Target**	**Target**
Plan	0	0	0	0
2008	0	0	0	0

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

Patent Applications Submitted

Year	Target
Plan:	12
2008 :	3

Patents listed

6) Blueberry TH-682

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

	Extension	Research	Total
Plan	0	0	
2008	0	65	65

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

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

Year	Target	Actual
2008	49	62

Output #2

Output Measure

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

Year	Target	Actual
2008	{No Data Entered}	71

Output #3

Output Measure

- Number of graduate students receiving training in this area

Year	Target	Actual
2008	{No Data Entered}	63

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 growers, both local and international, that are using new cultivar varities.

Outcome #1

1. Outcome Measures

Release of new cultivars or germplasms

2. Associated Institution Types

•1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	15	16

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

Outcome #2

1. Outcome Measures

Number of growers, both local and international, that are using new cultivar varities.

2. Associated Institution Types

•1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	{No Data Entered}	70

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

New UGA blueberry varieties are gaining in popularity among Georgia growers, growers across the Southeast, and growers in international territories. Estimates of more than 250,000 plants of UGA blueberry varieties were sold in 2008.

The importance of obtaining Pierce's disease-tolerant wine grapes increases as the incidence of Pierce's disease continues to increase in the vineyards located in the Northern Georgia.

4. Associated Knowledge Areas

KA Code	Knowledge Area
201	Plant Genome, Genetics, and Genetic Mechanisms
202	Plant Genetic Resources

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

Extreme drought in 2008 prevented evaluation of scab resistance.

Some spring freezing temperatures injured some field plots. Slowing economy has slowed blueberry acreage expansions.

An extremely drought impacted crop performance. Funding limitations limited some research activity.

The major drought of 2007 affected our ability to successfully grow the plant materials being evaluated.

Government regulations restricting water use hurt outdoor programs and badly damaged the economy of buying ornamental plants.

The down swing in the economy reduced the demand for new material.

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)
- Time series (multiple points before and after program)
- Other (Extramural funding & acreage occupied by new cultivars)

Evaluation Results

Reporting on funding, sales, extramural funding, released cultivars and publications was completed.

Continued to increase the numbers of wine grapes that were tolerant/resistant to Pierce's disease for further back cross for bringing good wine genes in.

Three of the original 20 selections have been discarded, two more selections have been selected for evaluation, and two selections have been targeted for release.

Key Items of Evaluation

Program #12

V(A). Planned Program (Summary)

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	6%	6%	6%	6%
203	Plant Biological Efficiency and Abiotic Stresses Affecting Plants	2%	2%	2%	2%
204	Plant Product Quality and Utility (Preharvest)	6%	6%	6%	6%
205	Plant Management Systems	14%	14%	14%	14%
206	Basic Plant Biology	8%	8%	8%	8%
211	Insects, Mites, and Other Arthropods Affecting Plants	7%	7%	7%	7%
212	Pathogens and Nematodes Affecting Plants	27%	27%	27%	27%
213	Weeds Affecting Plants	8%	8%	8%	8%
215	Biological Control of Pests Affecting Plants	8%	8%	8%	8%
216	Integrated Pest Management Systems	14%	14%	14%	14%
	Total	100%	100%	100%	100%

V(C). Planned Program (Inputs)

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

Year: 2008	Extension		Research	
	1862	1890	1862	1890
Plan	8.0	0.5	12.0	2.0
Actual	11.0	0.0	16.4	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
946117	0	1648893	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
946117	0	1648893	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 testing and collaboration with Gowen Chemical company is on going to try and get registration of halosulfuron on blueberries and several other small fruits.

Test and evaluated a number of fungicides and nematicides and evaluated and compared them to methyl bromide.

Applied and basic research resulted in several articles and other papers and patents. Further, this information was extended to the target audiences via educational trainings, workshops, conferences, and other media outlets. Cotton management systems were developed to improve fiber quality and increasing cotton production efficiency.

Isolates of the pecan scab pathogen, Fusicladium effusum, were collected from three orchards in Georgia with no known fungicide history. These sensitivity profiles will serve as baselines for future fungicide sensitivity monitoring in commercial pecan orchards.

Research reports were published as popular articles and in Proceeding of the Southern Nursery Research Conference. Several talks have been given to grower groups and at regional meetings. Numerous one on one discussions with growers have been initiated.

Research was conducted to quantify water needs of various greenhouse crops. Presentations were made at scientific and grower meetings about more efficient way to irrigate greenhouse crops.

One research paper was published in 2007 and two papers were presented at scientific meetings.

Transgenic plants are being produced and screened in the green house.

Demonstration workshops were held in three counties to introduce growers to the practice of fruit thinning. The workshops were well attended (300 people total for all 3 workshops). Subsequent communication with pecan producers indicates that many growers implemented fruit thinning as a practice for the first time in their pecan farming operations. A new Southeastern Pecan Growers Handbook was produced with fruit thinning highlighted and described as a recommended practice for pecan producers. The handbook has been distributed to over 300 producers since its release in May 2007.

Field experiments were conducted to evaluate response of new cultivars and breeding lines to use of phorate insecticide and twin row patterns, two practices that have provided suppression of spotted wilt. Several new cultivars have field resistance to TSWV much greater than in moderately resistant cultivar, Georgia Green. Although most of these cultivars still respond to some degree to phorate insecticide or twin row pattern, use of such practices are much less critical than with moderately resistant cultivars

Onion Production Guide was updated and is available on the Extension Publication webpage. Several refereed publications have been published or accepted for publication. The annual Onion Res-Ext Report was published with this year's findings. The production meeting and field day were held as planned. Articles and interviews for local media were done and close collaboration with the Vidalia Onion Committee continues.

Plants have been supplied to private entities (e.g., Macon Museum of Science), state agencies (e.g., Georgia DNR, UGA Physical Plant), and federal agencies (e.g., US Forest Service) for reintroduction projects. Activities have been reported in the newsletter of the State Botanical Garden of Georgia. Classes have been offered through the Plant Certificate Program of the State Botanical Garden of Georgia.

Cable-ties were applied to peach trees either in the fall or winter prior to fruit development, or ties were not applied at all (control). We found that fall application gave the best fruit size and quality.

Plant selections or plants derived from breeding programs were evaluated in the laboratory for their cold hardiness potential. Specific data was collected on the timing and rate of cold acclimation, the timing and extent of the maximum mid winter cold hardiness attained, and the timing and rate of cold deacclimation.

Field and laboratory research as well as publications and outreach conducted according to plan.

Physically map chromosomal regions inherited with apomixis Regions have been physically mapped Generate DNA sequence from chromosomal regions inherited with apomixis DNA sequence has been generated from bacterial artifical chromosome clones that map to the apomixis-linked region Identify genes in chromosomal regions inherited with apomixis Some of the sequenced DNA was genetic in nature Test function of genes in chromosomal regions inherited with apomixis One gene that is expressed late in the process of apomixis is being tested for function using knockdown and overexpression strategies Train a graduate student in technologies associated with apomixis research One graduate student has completed training with a Ph.D. and a second still is in training In addition to genomic sequence, transcriptome sequence from young ovules has been generated from two apomicts.

Conducted research, attend meetings and present talks and posters: Attend Georgia Association of Plant Pathologists annual meeting and the American Phytopathological Society National meeting. Student training -- Undergraduate training: Mentor two undergraduate students during semester-long directed research for class credit. Graduate student training: Major advisor for one MS student; served on the committees for two other students. Scholarly service: Current committee membership and other special assignments. Editorial Advisory Board member for the Encyclopedia of Plant and Crop Science. Member (one of nine) of the International Society for Plant Pathology Committee on Taxonomy of Plant Pathogenic Bacteria. B. External reviewer of grants, manuscripts, panels, and programs. Participated as an invited member in a two-day Meeting of Experts entitled Identifying Priorities for Research on Citrus Greening Disease organized by the National Academy of Sciences to advise the Florida Citrus Board on establishing a grant program specific to this disease. Manuscript reviews: 8 manuscripts for four different journals.

The immunomagnetic separation and polymerase chain reaction (IMS-PCR) seed health assay for A. avenae subsp. citrulli was optimized and evaluated for its ability to efficiently detect the pathogen in watermelon seeds. IMS-PCR was compared to different standard seed health assays for the detection of Aac in 9 independent laboratories. To improve the specificity of the PCR assay, genomic data were used to generate three subspecies-specific oligonuleotide primers for Aac. To elucidate the role of blossoms in watermelon seed infection by Aac, experiments were conducted to determine the role of bacterial motility, pollination and pollinating insects in seed infection. To further improve the efficiency of seed health testing a magnetic capture hybridization and real time-PCR assay was designed and evaluated. Workshops were conducted to train seed pathologists to develop and implement this assay at Iowa State University, Ames, IA and the American Phytopathological Society national meetings in Minneapolis MN.

In peaches, DMI resistance to Monilinia fructicola (brown rot) can be overcome by simply increasing the rates of DMI fungicides to a level which will control the pathogen. Rate increases are not generally possible, since tolerances are based on environmental and human health concerns, and the field rate is often established at the tolerance level. However, based on interaction with industry contacts, it was determined that fenbuconazole (Indar) tolerances were actually much higher than current established rates, allowing for a possible rate increase. Testing was conducted to determine whether a cost-effective, efficacious rate of fenbuconazole could be achieved with increased rates.

Lab tests determined the level of sensitivity to copper across many new isolates collected. This included several races of the pathogen. Information was delivered at agent trainings and in the form of a poster at a regional commodity meeting and trade show.

As of this date, activities 1-5 and activity 8 have been conducted and will continue into the future. Non-refereed papers have been developed for cotton in regards to activity 6; more publications are anticipated. Information developed in these studies has been incorporated into crop production guides for peanut, cotton, soybean, and corn. Graduate student efforts with cotton fiber/nematode studies are progressing.

Presentations have been given to educate extension personnel, green industry professionals, and Master Gardeners about SOD; however, since the discovery of infected plants within retail ornamental nurseries is no longer publicized, interest and knowledge of the disease has lessened since its' initial discovery in 2004-2005. Over 1,000 sites (nurseries, landscapes, and forest and suburban streams) have been surveyed for P. ramorum since 2004. Additionally, the total number of plant, soil, and water samples processed by the UGA Extension Plant Pathology Laboratory to detect P. ramorum is over 9,000 since 2004.

Collectively among collaborators many county educational meetings were conducted, at least three regional educational programs were conducted. There were numerous applied research projects completed and several extension publications, mass media releases and a host of individual farm visits completed.

Applied research was conducted. Workshops and county level production meetings were conducted. Extension publications were published. Newsletter articles, e-mail communications, and popular articles were written.

Research projects were conducted resulting in scientific publications, presentations at scientific meetings and research conferences. Meetings were held and results reported to growers.

Four cultivars have been released.

Findings have resulted in more effective biological toxins and patents for compounds to enhance Bt toxin efficacy. Disease transmission studies in both animals and plants are on-going with emphasis on pest and disease control.

Salvia was planted in soil amended with mycorrhizal products. No colonization was observed.

Research focused on peach and blueberries, where tree- and bush-attacking pests are shortening orchard longevity and profitability. Grower education and management programs were informed by research findings.

Nematicidal compounds were tested in lab, greenhouse, and field studies as planned.

Experiments have been conducted to evaluate biological and chemical fungicides and cultural practices for developing integrated disease management approaches. Chemical fungicides with new active ingredients and promising disease suppression were evaluated in repeated experiments under field conditions. Disease control efficacy of new biological products was evaluated in greenhouse and field studies.

Twenty-nine research/demonstration projects were conducted in vegetable IPM in 2008. These included tests in sweet corn, onions, cucurbit crops, cole crops, and beans. Results were discussed at multiple vegetable production meetings throughout the year (5 State/Regional level meetings, 8 County level meetings). Selected projects were also presented at professional meetings. The commercial vegetable pest control handbook was updated and published.

A total of 18 pecan production meetings and 3 pest management workshops were conducted. A quarterly newsletter is published and distributed electronically and posted on the CAES website. Pest management recommendations were published and distributed in the 2008 Georgia Pest Management Handbook and the Pecan Pest Management Handbook.

Research was conducted on powdery mildew of cucurbits, downy mildew of cucurbits, bacterial leaf spot of tomato and pepper, Botrytis neck rot of onion, and fusarium wilt of watermelon. Information was presented at 2 field days, 2 commodity meetings, 1 extension training and other outlets. Research was published in Fungicide and Nematicide reports and extension reports.

2. Brief description of the target audience

Greenhouse operators, farmers, county extension agents, seed companies, chemical companies, industry representatives, turfgrass professionals, general public.

V(E). Planned Program (Outputs)

1. Standard output measures

Target for the number of persons (contacts) reached through direct and indirect contact methods

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
Plan	19750	50000	0	0
2008	18511	130594	595	2000

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

Patent Applications Submitted

Year	Target
Plan:	5
2008 :	3

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

	Extension	Research	Total
Plan	0	0	
2008	0	0	98

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

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

Year	Target	Actual
2008	225	391

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
2008	1140	1113

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
2008	2200	2408

Output #4

Output Measure

- Number of disease samples processed by diagnostic laboratory.

Year	Target	Actual
2008	6000	1200

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	Increase in farm gate value of row and forage crops in Georgia. Reported annually in millions of dollars.
5	Increase in farm gate value of fruit and nut crops in Georgia. Reported annually in millions of dollars.
6	Increase in farm gate value of vegetable crops in Georgia. Reported annually in millions of dollars.
7	Increase in farm gate value of ornamental horticulture crops in Georgia. Reported annually in millions of dollars.
8	Percentage of program participants reporting increased knowledge after program participation.
9	Percentage of program participants who indicated a plan to adopt one or more of the practices recommended in this 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

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	110000	227907

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

School Lunch and Local Produce. Under the guidance of a FVSU county agent, a group of small farmers in the coastal area of Georgia near Glennville have been supplying local schools with various kinds of greens and beans. Results from surveys administered by a local FVSU county agent suggest that these fresh vegetables are relished by the students and teachers. The agent and representatives from the group traveled to North Carolina to learn about the process of supplying local school districts with locally grown produce. The system is working well and has reduced the transportation cost of moving these produce items to markets further away. The price is negotiated with each school district so a profit is factored in the process. The small farmers are expanding production in order to capture this added value which has increased farm enterprise net income from 5% to 15% per farmer.

4. Associated Knowledge Areas

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

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 Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	20	151

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

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

Outcome #3

1. Outcome Measures
Number of Master Gardener certifications granted through this program.

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:
Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	500	562

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

The pre-test average for all three classes was 72% and the post-test average for all three classes was 86%. A survey of class participants estimated that on average each Master Gardener assists 67 homeowners with landscape questions per year. Therefore, if each Master Gardener that completed this local training teaches an average of 67 homeowners about water smart landscape design practices, then there would be the potential of reaching over 1,200 people on this issue in our six county areas. And, 63% MGs said 'yes' when asked if they were working on any projects in which they were applying what was learned during the training. Virtually all MG participants intended to modify a landscape practice they were using and recommending. These practices ranged from changing the direction of gutter spouts, washing the car over turfgrass, installing drip irrigation, monitoring silt in a local stream to getting involved with Adopt-A-Stream.

4. Associated Knowledge Areas

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

Outcome #4

1. Outcome Measures

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

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	1792	1681

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

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

215	Biological Control of Pests Affecting Plants

Outcome #5

1. Outcome Measures

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

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	233	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

Growers need a herbicide that will selectively control sedges in blueberries. Currently, I have conducted and reported over 10 studies to Gowen Chemical Company in order to help develop and attain halosulfuron as a bearing use product in blueberries.

Peach and blueberry are the two economically most important fruit crops in Georgia and other southeastern states, contributing significantly to the economies of small farming communities in economically depressed areas. This project develops and implements improved disease management systems in response to the emergence or re-emergence of diseases and the changing economic production situation.
Apomixis in crop plants could provide a means to fix hybrid vigor through multiple seed generations. Understanding the function and diversity of genes underlying apomixis will allow us to determine the feasibility of transferring this trait to crop plants.

Year-1 of work to re-acquire Mexican peach export markets for GA & SC peaches was successful. If Year-2, refined on the basis of Year-1 work is similarly successful, a pilot export program for u-fumigated GA & SC peaches is possible in 2010. The GA & SC peach industry's annual value is typically around $80 million. Re-acquisition of Mexican markets may consume up to 10% of our fruit which should help alleviate downward price pressure in years when the U.S. peach crop is large.

4. Associated Knowledge Areas

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

Outcome #6

1. Outcome Measures

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

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	746	894

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

My vegetable program provides information on plant environmental interactions and irrigation that help growers to better produce vegetables under increasingly difficult climatic conditions and a competitive world market.

4. Associated Knowledge Areas

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

Outcome #7

1. Outcome Measures

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

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	675	770

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

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

Outcome #8

1. Outcome Measures

Percentage of program participants reporting increased knowledge after program participation.

Not reporting on this Outcome for this Annual Report

Outcome #9

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 for this Annual Report

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

Biggest external factors are when and if Gowen submits a registration package for halosulfuron to the EPA, and whether the EPA approves the registration.

Methyl Bromide has been eliminated, so there is no recourse. Something must be done. The drought, the economy downturn, public policy changes and funding all affected as expected.

A historic drought afflicted all of Georgia in 2007. Further, economic pressures as the result of changes in the corn-for-ethanol program had a domino effect on costs and price risks. Meanwhile, the drought's severity had a devastating effect on the green industry, as watering restrictions and eventual elimination prevented proper care of turf and horticultural products. Further, immigration policy changes have affected the development of the grazing dairy industry in Georgia.

2007 was a very hot, dry growing season that may have influenced results.

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 regulation concerning water use may also increase 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.

Government regulations on germplasm release policies required that were unexpected.

Weather conditions leading to a light 2006 pecan crop led to a very heavy pecan crop across the state in 2007. This led many pecan producers to see the value of fruit thinning.

During the early part of the 2008 growing season, drought affected plant growth, and yield potential in some tests. However, a late season tropical storm helped leaf spot epidemics and greatly aided plant growth and yield.

Drought conditions in Georgia during the last year and watering restrictions put some limits on our outdoor plant propagation activities.

We had a frost in April of 2007 that reduced the state's overall crop by 55%.

The change in the economy affected the program as operating funds were taken back.

Economic recession during most of 2008 affected fruit producers' economic outlook and changed cost-benefit ratios in pest management.

Lack of suitable programs for federal funding of research topic.

Extramural funds were available to support research activities. Naturally infested seeds were available through solicitation from seed companies as well as by the ability of collaborators to generate naturally infested seedlots.

Extreme drought reduced disease in some experiments. The April freeze of 2007 decimated peach and blueberry commodities, but most research was salvaged.

Drought affected the outcome by lessening the severity of disease in 2007. This in turn inhibited our ability to collect

isolates and obtain data from field plots.

Severe drought across much of Georgia in 2007 affected the spread of the soybean rust epidemic, thus making this disease less severe last season. Severe drought however likely made damage from nematodes on all crops more significant. In 2007, I worked with the EPA and the USDA to ensure continued availability of adlicarb to peanut growers in Georgia and also worked to renew a Section 18 label for tebuconazole.

Phytophthora ramorum remains a federally regulated pathogen. However, federal funds to study, survey, and ultimately manage P. ramorum are being significantly reduced compared to past funding years. A reduction in funding has resulted in a reduction in sample numbers collected and processed by the GDA, GFC, and UGA Extension Plant Pathology laboratory. Funding and support for the P. ramorum certification program also has decreased due to economic hardships (economy, drastic increase in transportation costs, and drought) to the green industry in Georgia, as well as lack of publicity following P. ramorum recovery.

Drought and cold weather conditions were encountered. Plant disease affected some study plants.

Drought required digging of a new well at great expense. There is interest among Hispanics in our yellow, non-melting flesh selections. These are similar to Latin American landraces.

Departmental space and fiscal resources were limiting factors in basic insect sciences. Also, drought impacted plant disease transmission studies in vegetables. State budget cuts during FY09 have also impacted the outcomes of this work.

The viability of the inoculants could have been affected by storage.

Peach insecticide efficacy trials were conducted, but fruit loss associated with cold injury, destroyed the crop in our research orchard.

EPA modified its position on use of adjuvant with pesticides, requiring use of adjuvants for establishment of tolerances if adjuvants are recommended on the label. This prevented adjuvant recommendations on the label of two insecticides for which adjuvants have clearly shown benefits in efficacy.

Much higher prices for fuel, fertilizer and pesticides put tremendous pressure on the bottom line for most growers. Removal of pecan from the label of aldicarb reduced the choices for aphid and mite control.

The 10 inches of rain dropped by tropical storm Fay effected our fall vegetable production by increasing the level of disease. Currently the EPA is planning the use of fumigation buffers that may reduce the acreage in southwest Georgia that can effectively used to produce vegetables.

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)
- During (during program)
- Time series (multiple points before and after program)
- Case Study
- Comparisons between program participants (individuals,group,organizations) and non-participants
- Comparison between locales where the program operates and sites without program intervention

Evaluation Results

In all field trials conducted, injury to over 10 blueberry varieties did not exceed 20% with labeled rates, and tended to be transient. Postemergent control of sedges with halosulfuron exceeded 80% during the first 8 weeks after application. With an extensive underground tuber rhizome system, a second cleanup application will be necessary.

evaluation undergoing

Faculty evaluated their program's success by conducting pre and post meeting evaluations/observations of participants before and after the planned program was conducted. Multiple producers were used as case studies to understand the impact of this program. Survey comparisons of participants and non-participants of the program was used to elucidate effectiveness of implemented programs. On-site surveys and observations were made to account for the immediate or near term impact of new information delivered in a program. On-farm research and demonstrations were used on over 35 locations in 2007, serving as case studies to show effectiveness of new technology. Data was collected, analyzed, and shared through direct and indirect contact.

Replicated trials were conducted that evaluated double-cropping scenarios with Vidalia onions to reduce sour skin, a disease caused by a soilborne bacterium. Evaluations of onions harvested in the field plots and evaluations of numbers of colony forming units of bacteria per gram of soil were evaluated in the laboratory. Also data were collected from a survey of the distribution of Iris yellow spot virus in spiny sowthistle (an indicator host) in over 50 counties was conducted that demonstrated the widespread dissemination of the virus outside of the onion-growing region. Also, a survey of viruses in peanuts were conducted in over 50 counties in Georgia to determine what viruses were present in the peanut crop.

Evalualtions were performed following presentations at grower meetings.

Population studies have continued as planned using dilution plating and incubations.

Continue to have results submitted to journals for evaluation and review.

Transgenic plants continued to be developed in the laboratory with screening for the selectable marker. Positives are allowed to mature to determine if they are fertile. If fertile the mature plants were allowed to seed. Seed was collected for further studies. and eventual release. Wiil be initiating the possibility of field testing transgenic peanut in Uganda.

We conducted field trials in Tifton, Ga., intended to determine the effect of colored plastic film mulches on growth and yield of broccoli. The results of this trial have been presented in professional meetings and growers meetings and will be published as a journal article.

A survey conducted prior to the 2007 season indicated that fruit thinning was not practiced by many pecan growers. Attendance by over 300 people at the demonstration clinics and subsequent implementation by a number of growers indicates that the efforts were successful.

Incidence of tomato spotted wilt in peanut was determined by counting the number of 1 ft portions of row severely affected by tomato spotted wilt, and calculating a percentage of the plot affected based on total row length within the plot. Also, yield (pod yield as pounds/Acre) was estimated for each plot for yield comparisons and initial economic analysis.

Evaluations were conducted after food safety workshops.

Weekly meetings of the Plant Conservation Program staff of the State Botanical Garden have provided the venue for evaluating the program and making changes as required.

Evaluation studies were conducted by comparing the laboratory estimates of the cold hardiness of woody ornamentals to

their actual performance in the field.

None of the alternative treatments against bacterial spot of peach have been as effective as the antibiotic standard. Protocols for fungicide application against brown rot of peach in the packinghouse have been optimized, allowing efficacious and cost-effective postharvest treatment. Mummy berry and foliar diseases of blueberry are suppressed with biofungicides, although not as effectively as in conventional systems.

Two workshops were conducted where seed pathologists were trained how to conduct MCH-real time PCR for the detection of multiple pathogens in seeds. In total approximately 75 individuals participated in the workshops. A paper describing the technique was recently accepted for publication in Phytopathology.

Formal questionnaires were not developed for the education programs. However, numerous individual interviews were conducted either at education programs or on-site at retail and production ornamental nurseries and landscapes to obtain personal opinions and perceptions on what has been done in the program previously, as well as where changes and additional efforts are needed in the future. Physical plant, soil, and water samples continue to be collected and/or solicited from concerned Georgia citizens and green industry personnel to detect pathogen survival and potential spread.

Over 20% of growers have adopted the alternative methyl bromide application procedures. This is based on surveys of growers in the state.

Plant development research was conducted including studies on tissue culture and plant conservation of Elliottia racemosa, reproductive biology (flowering and fruit development)of horticultural crops, studies on herbal and medicial plants, and ozone and its effects on commercial greenhouse crops.

An increasing number of trees of the Gulf series are being propagated, except for 2007. (Nursery disaster in Tenn.)

Research is evaluated annually and on longer term through graduate program assessment. Continued long term funding of these programs by sponsoring agencies is another important factor

Conducted on-farm and experiment station research in-orchard and packing house. Focused on borer species in peach,and leaf hopper survey in blueberries. Also worked with USDA-APHIS, Clemson University, SC Peach Council and GA Peach Council conducting peach IPM efficacy evaluations to support re-acquisition of Mexican export markets for un-fumigated peaches from SC & GA. Hosted a GA Pesticide Resistance Management Tour for U.S. EPA. Led dialogue urging modification of pesticide label language which would discourage pesticide use pattern which promote resistance.

Twelve field experiments were conducted on bell pepper, squash, and tomato in 2008 in Tifton, GA. The results indicated that some newly available chemical fungicides, such as fluopicolide, provided greater suppression of Phytophthora blight compared with the traditional chemical fungicide standard mefenoxam. Considerable numbers of P. capsici strains isolated from vegetable fields in GA have developed resistance to mefenoxam, however, strains resistant to these new chemical fungicides have not been identified. Some biological control products, such as Bioten (Trichoderma asperellum and T. gamsii) showed to be promising in disease suppression.

Key Items of Evaluation

Program #13

V(A). Planned Program (Summary)

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
301	Reproductive Performance of Animals	20%	20%	20%	20%
305	Animal Physiological Processes	10%	10%	10%	10%
306	Environmental Stress in Animals	10%	10%	10%	10%
307	Animal Management Systems	30%	30%	30%	30%
311	Animal Diseases	20%	20%	20%	20%
315	Animal Welfare/Well-Being and Protection	10%	10%	10%	10%
	Total	100%	100%	100%	100%

V(C). Planned Program (Inputs)

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

Year: 2008	Extension		Research	
	1862	1890	1862	1890
Plan	1.5	0.0	2.0	0.0
Actual	4.2	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
361245	0	100542	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
361245	0	100542	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

Ammonia emissions from broiler houses were measured to determine concentrations at various distances from the broiler houses. This research demonstrated that ammonia concentrations diminish to close to background levels 500 feet from broiler houses. Testing of one new litter amendment product (Ferric Sulfate) continued on a commercial broiler farm over a period of 6 flocks (1 year). This product appears to reduce ammonia well and due to its activation characteristics may provide longer control on ammonia generation rates than currently used products. Testing and validation of a new ammonia measurement method being developed by a third party was conducted under commercial conditions. Field research under commercial conditions and educational programs were conducted to demonstrate the benefits of using attic inlets. Attic inlets draw air from the attic that has been heated by radiant heat from the sun shining on the poultry house roof. The use of these inlets has resulted in a 20% increase in ventilation without a 20% increase in cost. A result of this is drier litter that in turn reduces ammonia generation rate resulting in lower ammonia concentrations.

Research on phytate phosphorous and phytase enzyme was conducted. Educational programs were conducted on nutrient management planning (NMP) which included phosphorous management strategies to reduce environmental impact. An example of these strategies was the development and implementation of a Phosphorous Index to assure land application of poultry litter did not overload soils with phosphorous.

Field research in energy efficient brooding and ventilation methods was conducted on commercial poultry farms. Educational meetings with poultry industry personnel and poultry farmers were conducted throughout the state. Newsletters extending this timely information were distributed nationally.

Educational meetings have been conducted. Agrosecurity and biosecurity manuals were distributed to participants of meetings. Powerpoint presentations of biosecurity training materials have been made available to poultry industry personnel.

Research has been and continues to be conducted on food safety as related to poultry. Evaluation of novel chemistry techniques have been conducted in research and field studies. Individual processing plants in GA have been visited and provided assistance.

Research was conducted feeding broiler breeder pullets on a daily basis rather than the conventional industry practice of every other day. Every day feeding increased egg production by 15-17 eggs per hen compared to typical industry practices. splitting the daily feed allotment into two feedings increased egg production by another 4-5 eggs per hen. follow-up studies are now underway to understand why feeding regimes affect egg production.

2. Brief description of the target audience

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

V(E). Planned Program (Outputs)

1. Standard output measures

Target for the number of persons (contacts) reached through direct and indirect contact methods

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
Plan	175	1200	200	0
2008	850	6623	51	0

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

Patent Applications Submitted

Year	Target
Plan:	0
2008 :	0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

	Extension	Research	Total
Plan	0	0	
2008	0	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
2008	50	15

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
2008	150	40

Output #3

Output Measure

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

Year	Target	Actual
2008	7	18

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	Increase in the farm gate value of poultry production in Georgia. Value reported annually in millions of dollars.

Outcome #1

1. Outcome Measures

Percentage of program participants reporting increased knowledge after program participation.

Not reporting on this Outcome for this Annual Report

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 for this Annual Report

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
2008	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
307	Animal Management Systems
305	Animal Physiological Processes
306	Environmental Stress in Animals
311	Animal Diseases
315	Animal Welfare/Well-Being and Protection
301	Reproductive Performance of Animals

Outcome #4

1. Outcome Measures

Increase in the 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
2008	4892	5432

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

This project demonstrated that ammonia emitted from broiler houses disperses to near background levels 500 feet away from the houses. The research observations made in this study will allow poultry farmers to combat false nuisance complaints relative to ammonia release from their farms.

Poultry farmers are better informed on phosphorous issues related to the environment and have incorporated P into their nutrient management plans. P is less likely to impact surface water because of the educational efforts made as a result of this program.

Energy costs have skyrocketed. Results of this project have been critical in assisting poultry producers as they deal with unprecedented fluctuations in fuel and electricity prices. research on radiant brooders, wood pellet furnaces, attic inlets and totally enclosed broiler houses have saved US poultry producers approximately 2.5 million dollars.

The Georgia poultry industry has taken a proactive approach to assuring AI does not become established in the US. Poultry extension personnel have assisted in reinforcing biosecurity principles with the poultry industry and providing educational materials and programs for poultry farmers.

4. Associated Knowledge Areas

KA Code	Knowledge Area
311	Animal Diseases
301	Reproductive Performance of Animals
305	Animal Physiological Processes
307	Animal Management Systems

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

The downturn in the economy has caused the loss of an important faculty resource that was key to this project. We will continue to address this issue but will be forced to do so with reduced personnel and resources.

Dramatic increases in the cost of phosphorous (P) to supplement poultry diets have increased the use of enzymes. This has resulted in less P in poultry litter. Increased commercial fertilizer costs have also resulted in poultry litter being more valuable as a fertilizer and it being used more effectively. Nitrogen (N) utilization and N-based NMP have been competing issues with phosphorous utilization. Unexpected escalation of commercial fertilizer prices has driven much of the current use strategies relative to poultry litter. In addition, poultry producers have gone longer between cleaning out houses. Although this has not resulted overall in more phosphorous being generated or land applied, it has resulted in higher phosphorous levels in litter samples tested. Some modification of the percent reduction in poultry litter samples Custom Output Measure will need to be made.

Wide swings in energy costs the past 12 months have made this project even more critical to poultry farmers. Poultry specialists were spread very thin due to demands from clients and decreased numbers of specialists. Other priorities took time away from this important program.

Biosecurity procedures discourage poultry farmers from coming into contact with people or equipment that have poultry or other birds. Concerns within the poultry industry about poultry farmers being brought together for biosecurity meetings have limited direct training. In addition, economic difficulties within the poultry industry have focused their priorities elsewhere.

Proposed food safety regulations could change the metrics originally proposed. The downturn in the economy has limited resources available to conduct this program and industry priorities are focused elsewhere.

The economic downturn has reduced faculty and operating resources available to support this program. Reduced staffing has limited the time and resources available to support this program. Dramatic increases in feed prices have made increasing egg production even a higher industry priority.

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

Ammonia measurements were collected at various distances from poultry houses to assess ammonia emissions in real world terms. Modeling of ammonia emission dispersion was completed.

Evaluations of ferric sulfate as a litter treatment for reducing ammonia generation and soluble phosphorous formation in commercial broiler houses were conducted.

Evaluations of workshops were completed. Program participants ranked the value of workshops very highly. In addition, government and industry funding agencies have provided evidence of the impact of this work by volunteering to supply resources for energy conservation projects. Poultry farmers have adopted new ventilation inlet systems that have been recommended.

Evaluation will be based on negative results; that is the failure of AI to infect Georgia poultry flocks will be considered a successful outcome. Data will be collected from participants in trainings and state and federal agencies responsible for poultry health.

Problem solving activities were able to prevent several poultry processing plants from failing additional food safety inspections and prevented possible plant closings.

Thus far only research trials have been conducted. Field trials are being conducted with industry partners.

Key Items of Evaluation

Program #14

V(A). Planned Program (Summary)

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	6%	6%	6%	6%
802	Human Development and Family Well-Being	72%	72%	72%	72%
803	Sociological and Technological Change Affecting Individuals, Families and Communities	5%	5%	5%	5%
805	Community Institutions, Health, and Social Services	5%	5%	5%	5%
806	Youth Development	12%	12%	12%	12%
	Total	100%	100%	100%	100%

V(C). Planned Program (Inputs)

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

Year: 2008	Extension		Research	
	1862	1890	1862	1890
Plan	1.0	1.4	0.0	0.0
Actual	2.5	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
193524	588890	0	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
193524	588890	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 family life program offered several programs on parenting skills. The programs provided information to GA inmates who would be release within the next 5 years for their crimes; also the programs provided information to young care givers and daycare providers on a host of subjects (nutrition, health, discipline, and home maintenance and community services.) For the youth at large the family life area educated them on self-esteem, life skills, decision making and appropriate etiquette skill to advance in life's social settings. The program also provided Georgia Seniors with health, recreation and estate planning services. The family life program has worked with local, state and federal agencies in providing this information for public usage.

We disseminated parenting fact sheets, age-paced newsletters, and information on early brain development through print and web sources. We provided parenting and child care provider education classes to agents, parents and caregivers. We provided information to be disseminated by agents to print media outlets.

2. Brief description of the target audience

The target audience will be limited resource individuals and families.

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.

V(E). Planned Program (Outputs)

1. Standard output measures

Target for the number of persons (contacts) reached through direct and indirect contact methods

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
Plan	165	225	220	25
2008	376	500	500	250

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

Patent Applications Submitted

Year	Target
Plan:	0
2008 :	0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

	Extension	Research	Total
Plan	0	0	
2008	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
2008	200	551

Output #2

Output Measure

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

Year	Target	Actual
2008	3	8

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
2008	{No Data Entered}	63

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.

Outcome #1

1. Outcome Measures

Percentage of program participants reporting increased knowledge after program participation.

2. Associated Institution Types

- 1862 Extension
- 1890 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	75	71

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

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

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
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	65	86

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

Of the 175 participants in child care self-study programs in 2008, 86% indicated that they were likely to change one or more of the recommended practices after completing the self-study.

4. Associated Knowledge Areas

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

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
2008	20000	23201

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
806	Youth Development
805	Community Institutions, Health, and Social Services
803	Sociological and Technological Change Affecting Individuals, Families and Communities

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 economy may have affected the participant ability to learn. The participants may have been more concerned on ways of paying bills or other ways of caring for the family.

The Georgia Department of Early Care and Learning was formed in July 2006. The Department consolidates Georgia government resources and services related to early childhood care and development. The Department handles child care licensing, regulation, quality improvement, and federal Child Care and Development Block Grant funds. The downturn in the economy in 2008 had a negative impact on attendance at many training events, resulting in fewer educational contact hours for agents than anticipated.

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)
- Time series (multiple points before and after program)
- Comparisons between program participants (individuals,group,organizations) and non-participants

Evaluation Results

For the before and after questions that were asked 84% of the participants were able to verbally indetify 2/3 of the workshop goals. Mail-out surveys are being developed to check on long-term behavioral changes.

Agent knowledge was assessed by evaluation tools specific to the content provided. The evaluation database was used to assess changes in knowledge and intent to change behavior by those reached through county agents. An in-depth evaluation of the Eat Healthy, Be Active curriculum unit was conducted, comparing participants with non-participants at several points before and after training.

Key Items of Evaluation

Program #15

V(A). Planned Program (Summary)

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

V(C). Planned Program (Inputs)

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

Year: 2008	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	215064
1862 Matching	1890 Matching	1862 Matching	1890 Matching
0	0	0	215064
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 biofuel plant species were studied for in vitro plant regeneration and genetic enhancement for value added traits.

2. Brief description of the target audience

Target audience includes industry professionals and end consumers.

V(E). Planned Program (Outputs)

1. Standard output measures

Target for the number of persons (contacts) reached through direct and indirect contact methods

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
Plan	0	0	0	0
2008	0	0	0	0

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

Patent Applications Submitted

Year	Target
Plan:	0
2008 :	0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

	Extension	Research	Total
Plan	0	0	
2008	0	1	1

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

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

Year	Target	Actual
2008	2	1

Output #2

Output Measure

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

Year	Target	Actual
2008	{No Data Entered}	3

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O No.	OUTCOME NAME
1	Outcomes of research projects.

Outcome #1

1. Outcome Measures

Outcomes of research projects.

2. Associated Institution Types

•1890 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	{No Data Entered}	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

Further advancements were made on in vitro plant regenration methods, medicinal bioactivity evaluation, and testing molecular biology methods.

4. Associated Knowledge Areas

KA Code	Knowledge Area
201	Plant Genome, Genetics, and Genetic Mechanisms
206	Basic Plant Biology

V(H). Planned Program (External Factors)

External factors which affected outcomes

- Economy
- Public Policy changes
- Competing Public priorities

Brief Explanation

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

1. Evaluation Studies Planned

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

Evaluation Results

Evaluation studies were carried out during the research program period. Data collection methods were modified as need for specific objective(s).

Key Items of Evaluation

Program #16

V(A). Planned Program (Summary)

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	4%	4%	4%	4%
205	Plant Management Systems	10%	10%	10%	10%
307	Animal Management Systems	10%	10%	10%	10%
601	Economics of Agricultural Production and Farm Management	20%	20%	20%	20%
602	Business Management, Finance, and Taxation	10%	10%	10%	10%
603	Market Economics	20%	20%	20%	20%
604	Marketing and Distribution Practices	10%	10%	10%	10%
605	Natural Resource and Environmental Economics	10%	10%	10%	10%
610	Domestic Policy Analysis	3%	3%	3%	3%
611	Foreign Policy and Programs	3%	3%	3%	3%
	Total	100%	100%	100%	100%

V(C). Planned Program (Inputs)

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

Year: 2008	Extension		Research	
	1862	1890	1862	1890
Plan	6.0	0.9	4.0	2.5
Actual	13.0	0.2	14.4	4.0

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

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
1118138	58889	1447808	430128
1862 Matching	1890 Matching	1862 Matching	1890 Matching
1118138	58889	1447808	430128
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

Two field experiments were conducted during 2007-2008. The cover crops were planted in fall and the field crops were planted in spring. In the sweet corn-tillage experiment, the effect of tillage on seed yield and above ground biomass(AGB) weight (fresh & dry wt.), leaf area index(LAI) and water use(WU) of sweet corn cultivars (C1-C6) was studied. The following no/strip tillage(NT/ST) and six cultivar treatments were applied using randomized complete block design with three replications: 1)NT-C1, 2)NT-C2, 3)NT-C3, 4)NT-C4, 5)NT-C5, 6)NT-C6, 7)ST-C1, 8)ST-C2, 9)ST-C3, 10)ST-C4, 11)ST-C5, 12)ST-C6. AGB was collected three weeks prior to harvest and LAI was recorded at vegetative, early tasseling and harvest week, while WU was measured on four bi-weekly (vegetative, early tasseling, silking, & mature ear) intervals at 0-45 cm depth. The results showed that C1 (cv. Silver Queen) grown in strip till provided optimal AGB yields and LAI. It also indicated that C2 (cv. Avalon) in strip till had highest yield and third highest water use while C3 (cv. Argent) in no till was lowest yielding with highest WU. The cover crops-nitrogen study with southern pea (SP) and common bean (CB) was conducted to compare the effects of cover crops (fallow=FA, abruzzi rye=AR, and crimson clover=CC) and inorganic nitrogen rates on seed and AGB yields, LAI and WU (0-30 cm depth). The following cover crops, nitrogen rates (no=0N, half=HN and full=FN) and two cultivar treatments were applied using randomized complete block design with three replications: 1)FA-0N-SP, 2)FA-0N-CB, 3)FA-HN-SP, 4)FA-HN-CB, 5)FA-FN-SP, 6)FA-FN-CB, 7)AR-0N-SP, 8)AR-0N-CB, 9)AR-HN-SP, 10)AR-HN-CB, 11)AR-FN-SP, 12)AR-FN-CB, 13)CC-0N-SP, 14)CC-0N-CB, 15)CC-HN-SP, 16)CC-HN-CB, 17)CC-FN-SP, 18)CC-FN-CB. Results showed that SP (cv. Mississippi Purple) under CC-HN treatment produced maximum LAI at flowering and initial pod while FA&AR-FN-SP affected AGB yields the most. Results also indicated that southern pea (cv. Mississippi Purple) in abruzzi rye at full nitrogen rate had highest yield and lowest water use while common dry bean (cv. Montcalm, kidney type) in AR-HN had lowest yield with second lowest WU. Research information from this program has been disseminated to students from the Fort Valley State University and two presentations given and abstracts published at the 2008 annual American Society for Horticultural Science Conference held at Orlando, Florida.

Research is ongoing with 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.

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 survey was conducted to determine the willingness of Georgians to pay for locally grown products. Data was analyzed and presented an undergraduate student a poster at the Food Distribution and Research Association Annual Meeting held in Columbus, Ohio.

Communicated with audiences in the following manners: Used a quarterly electronic newsletter, updated as needed the information on the web sited www.gaurbanag.org, spoke at annual state turf conference, supported specific technology training to faculty and support staff, hold quarterly updates for county agents, planned annual Urban Extension Conference for faculty, and supported the development of poster for national professional association meeting

Information on social capital, education, and poverty is still being compiled and analyzed, but progress has been made and public presentations have been done. Market Maker should launch in FY08. Reports were completed on agro-tourism and country profiles for economic development.

Research was done on industrial organization issues related to food retailing. The markets and marketing issues for organic products were studied. Issues effecting Agbusiness industry performance were analyzed and recommendations were provided.

Research and analysis was done for new products or methods involving beef production, peanut production, peach production, vegetable production, and cotton production. In many cases new strategies appear promising and are being recommended to Georgia producers.

Acting in concert with the Georgia Sustainable Agriculture Advisory Committee, the program developed and implemented a statewide strategic plan for sustainable agriculture. Implementation included sustainable agriculture workshops and farm tours.

2. Brief description of the target audience

1. Local beekeeping clubs, primarily urban hobbyists. 2. The state beekeeper association comprised of hobbyists and sideline beekeepers. 3. One large regional association comprised mostly of commercial honey producers. 4. New beekeepers, drawn largely from metro suburban areas. 5. Emergency management personnel, municipal service administrators and others dealing with public health and Africanized bees.

Farmers, foresters, homeowners, and lawn care companies will be included in the target audience for educational programs.

Urban Ag Industries General Public Extension and Research Faculty Public Policy Makers and Regulators

Local entrepreneurs and government officials

Farmers who want to add value to their products, existing agribusiness firms, entrepreneurs who want to establish a agribusiness firm, lenders and others serving agribusinesses

Producers of all major commodities in Georgia.

The target audiences are the middle managers and not the end-user.

This program will promote sustainable agriculture practices for all farms and farmers(small and large). Training programs will also target extension agents, USDA personnel, and Non-Governmental Organizations (NGO's).

The extension target audience will include, but not limited to, county extension agents and paraprofessionals, farmers, ranchers, agribusinesses, and forest woodland owners. The clientele will be reached by way of agricultural field days, on-farm demonstrations, seminars and workshops. We will also provide educational awareness to youth at 4-H camps, FFA summer camps, and other youth programs.

V(E). Planned Program (Outputs)

1. Standard output measures

Target for the number of persons (contacts) reached through direct and indirect contact methods

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
Plan	8200	10000	0	0
2008	15907	3023957	300	7600

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

Patent Applications Submitted

Year	Target
Plan:	0
2008 :	1

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

	Extension	Research	Total
Plan	0	0	
2008	0	0	55

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
2008	600	1212

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
2008	400	454

Output #3

Output Measure

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

Year	Target	Actual
2008	14	271

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 farmers who have adopted verifiable sustainable agricultural practices in their farming operations as a result of sustainable agricultural educational programs.
5	Number of invited presentations by faculty as a direct result of the success of this program.
6	Percentage of clientele who will save money on their household groceries by growing their own organic fruits and produce.

Outcome #1

1. Outcome Measures

Percentage of program participants reporting increased knowledge after program participation.

Not reporting on this Outcome for this Annual Report

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 for this Annual Report

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 for this Annual Report

Outcome #4

1. Outcome Measures

Number of farmers who have adopted verifiable sustainable agricultural practices in their farming operations as a result of sustainable agricultural educational programs.

2. Associated Institution Types

- 1890 Extension
- 1890 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	{No Data Entered}	10

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

Small and part time farmers generally are not early adopters of sustainable agricultural practices. The program implemented workshops and demonstration to show economic and profitability of sustainable agricultural practices. As a result 10 farmers adopted verifiable sustainable agricultural practices in their farming operations.

4. Associated Knowledge Areas

KA Code	Knowledge Area
205	Plant Management Systems
601	Economics of Agricultural Production and Farm Management

Outcome #5

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
2008	{No Data Entered}	132

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
605	Natural Resource and Environmental Economics
604	Marketing and Distribution Practices
610	Domestic Policy Analysis
601	Economics of Agricultural Production and Farm Management
205	Plant Management Systems

Outcome #6

1. Outcome Measures

Percentage of clientele who will save money on their household groceries by growing their own organic fruits and produce.

2. Associated Institution Types

- 1890 Extension
- 1890 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	{No Data Entered}	25

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

Organic Fruit Production. The number of people making inquiries to FVSU ANR Extension relative or organic or natural fruit production, increased by 15% in 2008. This is evidence there is an interest among our clientele on that issue. FVSU allocated more time for one of our county agents with special skills and experience in organic production systems to expand the area used for demonstrating the suggested systems. During the year more than 100 people visited the site and received information, instruction and hands-on experience in the practices. It is estimated that 50% of those people will actually adopt the technology and be satisfied with the guidance received. Twenty-five percent of those people will save money on household grocery expenses by growing their own. Estimated money saved is $100 per year.

4. Associated Knowledge Areas

KA Code	Knowledge Area
601	Economics of Agricultural Production and Farm Management
102	Soil, Plant, Water, Nutrient Relationships
205	Plant Management Systems
603	Market 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
- Competing Programmatic Challenges
- Populations changes (immigration,new cultural groupings,etc.)

Brief Explanation

Extreme drought was encountered.

Weather conditions and competing needs for Departmental resources impacted programming.

Georgia's changing and diverse agricultural industry and program funding impacted programs as did drought and changes in regulations regarding pesticide use. State budget cuts in FY09 affected results.

There was seasonal drought, slowing in economic growth, competition with other public priorities and rapid population growth.

Decreased incomes and personal spending, tight credit, increased unemployment, government focus on the macroeconomic picture.

Drought is causing issues for Georgia producers, including those with limited market access. Immigration is leading to issues of financial literacy and financial market access. High input and commodity prices effected industry performance.

Severe drought has affected many producers in Georgia and public programs such as crop insurance have been impacted, making it necessary to respond to new risk management situations. Also, trade and farm bill legislation were also public policy changes that needed responses. Escalating input prices coupled with high and then decreasing commodity prices need to be addressed as well.

Decrease in the availability of credit to support new and/or existing farm enterprises.

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)
- During (during program)
- Case Study
- Comparisons between program participants (individuals,group,organizations) and non-participants
- Comparisons between different groups of individuals or program participants experiencing different levels of program intensity.

Evaluation Results

The sweet corn corn-tillage study indicated that cv. Silver Queen cultivar grown in strip till provided optimal AGB yields and LAI while cv. Avalon in strip till had highest yield and third highest water use. The results for cover crops-nitrogen study indicated that southern pea (cv. Mississippi Purple) responds better than common dry bean (cv. Montcalm, kidney type) to sustainable agricultural practices.

Program evaluations were completed by participants and case studies were done on specific programs such as the Beekeeping Institute.

Evaluating are on-going as programs are delivered and are evaluated annually through survey and loss reports.

The purpose of the paper was to determine if consumers in Georgia are willing to pay a price premium for locally grown produce in Georgia. Surveys were distributed to participants at the Sunbelt Ag Exposition in Moultrie, Georgia in 2007. Respondents were asked to complete the survey at home and mail it back to the designated address. 35 were returned for evaluation. Questions were related to consumers' purchasing decisions for locally grown produce. Findings Respondents were given a scenario in which peaches were $3.00 per bound and how much more (cents) consumers were willing to pay for each pound. About 15% of the respondents with an annual income of $75,000 to 99,999 were willing to pay 25 to 49 cents more for locally grown peaches. Over 11% residing in small town were willing to pay 1 to 9 cents more for the local grown. Over 20% of females were willing to pay 1 to 9 cents more for local peaches. White individuals were willing to pay both 1 to 9 and 25 to 49 cents more at the percentages of above 18%. Respondents with Graduate/Professional levels of education were willing to pay both 1 to 9 and 25 to 49 cents more for the local characteristic. Currently married individuals (over 20%) were willing to pay 1 to 9 cents more. Over 12% aging from 41 to 50 years are willing to pay 1 to 9 cents more for locally grown peaches.

Evaluations were performed via surveys and direct communication

Case studies and after only evaluations are in progress.

Case studies are done in the agribusiness and for produce market access as extension personnel work one on one with growers.

We revisit producers after programs to see if they are improving in their outcomes. The farm records management program is also an example of post program evaluation.

Survey data revealed/demonstrated need for training in sustainable agricultural practices.

Key Items of Evaluation

Program #17

V(A). Planned Program (Summary)

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	50%	50%	50%	50%
903	Communication, Education, and Information Delivery	50%	50%	50%	50%
	Total	100%	100%	100%	100%

V(C). Planned Program (Inputs)

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

Year: 2008	Extension		Research	
	1862	1890	1862	1890
Plan	0.0	0.5	0.0	0.0
Actual	0.0	0.5	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
0	147223	0	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
0	147223	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

Surveys were done in Houston, Peach County, Sumter, and Macon 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

Target for the number of persons (contacts) reached through direct and indirect contact methods

Year	Direct Contacts Adults Target	Indirect Contacts Adults Target	Direct Contacts Youth Target	Indirect Contacts Youth Target
Plan	50	500	0	0
2008	296	845	275	1120

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

Patent Applications Submitted

Year	Target
Plan:	0
2008 :	0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

	Extension	Research	Total
Plan	0	0	
2008	0	0	0

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Number of educational contact hours generated from formal programs.

Year	Target	Actual
2008	1080	1296

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 senior citizens whose technology proficiency was improved as a direct result 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 for this Annual Report

Outcome #2

1. Outcome Measures

Number of senior citizens whose technology proficiency was improved as a direct result of this program.

2. Associated Institution Types

•1890 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	{No Data Entered}	200

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

This work has improved the technology proficiency of over two hundred senior citizens. Senior Citizen lives were improved by learning how to communicate using email and instant messaging with their family members and colleagues. Senior Citizens were also taught on how to use digital photography to capture those important memories. Several clients indicated that after taking the digital photography workshops, they were going to purchase digital cameras. Also the clients were shown how to send photos to their family members and colleagues. By teaching senior citizens on how to communicate and share photos in a digital age, they are less susceptible to feeling lonely. The most enlightening outcome of the technology training workshop was on how to use the Internet. Subjects covered included making sure that the information was reliable and from a reliable source. Topics include healthy living, financial planning, and other topics related to senior citizen's lifestyles. By enlightening the seniors on how to use the internet, they are less susceptible to fraud.

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

Evaluations of the programs was done informally. Pre and post surveys indicated that everyone owned a computer who came to the workshop or had access to a computer. After the training, all clients demonstrated a basic level of proficiency in the classes they selected. Telephone calls and emails were used for communications for post survey responses. Clients also indicated that they knew others and would disseminate the skills learned to friends and family.

Key Items of Evaluation

Program #18

V(A). Planned Program (Summary)

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	10%	10%	10%	10%
111	Conservation and Efficient Use of Water	15%	15%	15%	15%
124	Urban Forestry	10%	10%	10%	10%
202	Plant Genetic Resources	10%	10%	10%	10%
205	Plant Management Systems	10%	10%	10%	10%
211	Insects, Mites, and Other Arthropods Affecting Plants	10%	10%	10%	10%
212	Pathogens and Nematodes Affecting Plants	10%	10%	10%	10%
213	Weeds Affecting Plants	10%	10%	10%	10%
601	Economics of Agricultural Production and Farm Management	10%	10%	10%	10%
602	Business Management, Finance, and Taxation	5%	5%	5%	5%
	Total	100%	100%	100%	100%

V(C). Planned Program (Inputs)

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

Year: 2008	Extension		Research	
	1862	1890	1862	1890
Plan	2.0	0.0	1.0	0.0
Actual	4.8	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
410270	0	13071	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
410270	0	13071	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

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. Two workshops using the software were done in 2007 and two were done in 2008. In addition, Gary Wade provided seminars on the software at four industry meetings throughout the year. Also created was a full color brochure advertising the two cost estimating program.

Published a manuscript on genetic diversity in azalea. Presented a paper to professional society on abelia cultivar resease 'Cloud 99'. A patent on a new abelia cultivars 'Raspberry Profusion' was awarded.

Two computer Wimba organic trainings were taught to over 400 attendants. Six articles on xeriscpe and organic alternatives were done for local news media. Four radio spots were delivered on topics of pesticide safety. Five advanced Master Gardener trainings were held with 275 attendants and were taught in diagnostics, urban forestry, and water wise landscape techniques.

Within the program an active applied research was implemented to address new or recurring problems or knowledge voids. In 2008; Research endeavors have resulted in 1 peer-refereed (blind review) journal articles, 4 peer-reviewed, non-refereed specialty scientific publications, and 5 abstracts and proceedings. 9 field and greenhouse trials evaluating 65 treatments have been evaluated. Results from these investigations have been applied to extension activities and delivery of information. Under scope of this program these Extension outputs have been delivered: Publication of one book; 1 chapter in manual; 3 peer-refereed journal articles; 1 peer reviewed, non-refereed extension bulletins and circulars; 12 sections in 12 special extension bulletins; 15 articles in industry journals; 10 e-learning module; 5 abstracts and proceedings and 2 newspaper and online articles. These publications have been recognized as having significant impact. Implementation of statewide and local trainings has been the core of this program. Under this program 9 state and regional industry, professional and educational conferences/workshops/seminars and has conducted 3 statewide educational workshops/seminars. 5 county programs. Other efforts included attending and delivering information to underrepresented clientele and in bilingual format. Several innovative programs were implemented. Examples include computer-based trainings for industry personnel. Extramural funding was obtained through competitive grants and industry collaborations

We provided 5 educational seminars/classes involving greenhouse water conservation on campus. We provided 6 county-based grower programs or regional trade group programs on water conservation in greenhouses that were part of greenhouse updates and other meeting venues. We published 6 refereed Extension bulletins on water conservation in greenhouses to support the program efforts. These were provided as web-based downloadable documents to all participants. They are also available 24/7 on the UGA outreach website. We have met numerous times with the local grower groups in Georgia to discuss water conservation. I have also served on the Athens-Clarke County water conservation committee to help them devise new rules and regulations for the county that involve the greenhouse, nursery and landscape industries.

A recently received grant from the Georgia Forestry Commission will help provide practical training for advanced Master Gardeners in four locations across the state as a trial run. The subsequent training materials and website will be a big boost to this program.

Various MG programs were conducted/classes taught. Publications were created for use by both County Agents and homeowners with internet access.

Over 250 trees have been visited and documented.

2. Brief description of the target audience

Small, minority, and limited resource landowners and farmers.

Extension agents Tech School and Vo-ag. students Landscape Professionals

The targeted audience will be the Georgia public.

County agents Golf course superintendents Turfgrass professional managers Landscape companies Sod Producers Grounds maintenance personnel Sports Fields Managers General green industry personnel

The audience will include greenhouse owners, employees of greenhouse owners, county agents involved in assisting greenhouses, and community leaders involved in water conservation policy.

Homeowners, County Agents, Master Gardeners and other gardening groups. Landscapers.

V(E). Planned Program (Outputs)

1. Standard output measures

Target for the number of persons (contacts) reached through direct and indirect contact methods

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
Plan	5000	300000	550	1000
2008	4095	35990	645	1500

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

Patent Applications Submitted

Year	Target
Plan:	0
2008 :	0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

	Extension	Research	Total
Plan	0	0	
2008	0	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
2008	700	455

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
2008	500	197

Output #3

Output Measure

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

Year	Target	Actual
2008	15	70

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 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.
4	Number of technical school students taught how to use the software in their classes as a direct result of this program.
5	Collaboration on community mapping projects occuring as a direct result of this program.

Outcome #1

1. Outcome Measures

Percentage of program participants reporting increased knowledge after program participation.

Not reporting on this Outcome for this Annual Report

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 for this Annual Report

Outcome #3

1. Outcome Measures

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

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	{No Data Entered}	344708

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
213	Weeds Affecting Plants
211	Insects, Mites, and Other Arthropods Affecting Plants
111	Conservation and Efficient Use of Water
205	Plant Management Systems
601	Economics of Agricultural Production and Farm Management
102	Soil, Plant, Water, Nutrient Relationships
202	Plant Genetic Resources
212	Pathogens and Nematodes Affecting Plants
124	Urban Forestry

Outcome #4

1. Outcome Measures

Number of technical school students taught how to use the software in their classes as a direct result of this program.

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	{No Data Entered}	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
602	Business Management, Finance, and Taxation
124	Urban Forestry

Outcome #5

1. Outcome Measures

Collaboration on community mapping projects occuring as a direct result of this program.

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	{No Data Entered}	7

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

GPS (global positioning systems) and GIS (geographic information systems) technologies provide a means for landscape managers of all types and interests to evaluate, monitor and map the environment in ways that are only now being understood. A new course GPS/GIS was approved for Fall 2008 as part of the UGA horticulture curriculum. Students conducted a series of community-based mapping projects as part of the course. Students in the newly formed GPS course conducted seven mapping projects for properties in a land conservancy program sponsored by the Athens Land Trust. Horticulturists received a grant from the Georgia Forestry Commission to develop training materials and conduct a training session for advanced Master Gardeners, who will in turn conduct four tree inventories using Horticulture Department equipment, in the summer of 2009. With assistance of the Horticulture Department, tree surveys were conducted in Monroe and Smyrna, as well as on-going tree surveys on the UGA Campus, Macon State University campus and now Gwinnett Technical College. Preliminary mapping projects were also initiated in Costa Rica, on the UGA Campus and Albany, Ga.

4. Associated Knowledge Areas

KA Code	Knowledge Area
601	Economics of Agricultural Production and Farm Management
111	Conservation and Efficient Use of Water
124	Urban Forestry
102	Soil, Plant, Water, Nutrient Relationships

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 economy and fuel cost may decrease ability of people to attend programs. Creative computer alternatives may be needed to address needs. Decrease of state and federal funds have had a negative affect on program support and attendance.

Drought was a major factor in turfgrass production and management. Cold weather spells and high fluctuation in temperatures had a detrimental effect on turfgrass production and disease management. Water use regulation, policies, law enactment and other were constant priorities for turfgrass managers. However, the program objectives for the year were and surpassed predictions. Economic downturn has influenced the turfgrass industry and this program itself. However we have been successful in attaining extramural funds for travel and other activities.

The ordinances and rules involving water conservation are changing monthly in Georgia due to the "The Water Wars between GA/Fl and TN. Additionally our Governor and Legislature are changing rules in response to the increasingly severe drought, and our local officials are introducing new ordinances on the local level for the same reason. This has caused much confusion and difficulty delivering a cohesive message as the rules change monthly. We are doing everything we can to keep up. The economic downturn has reduced production on top of previous reductions due to drought. Hispanic laborers have left the area, and sales of plant materials are minimal. Water conservation is occurring but may be greatly influenced by reduced demand for plants.

New companies are entering the market, providing lower-cost GPS data collection units. Unfortunately, this is creating a wide range of available products that use different software.

The extreme drought situation in Georgia affected the focus of my publication topics, as well as the disease pressure in the state.

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)
- During (during program)
- Case Study
- Comparisons between program participants (individuals,group,organizations) and non-participants
- Comparisons between different groups of individuals or program participants experiencing different levels of program intensity.

Evaluation Results

Ask for written comments at the conclusion of our workshops. Also receive unsolicited comments throughout the year from people who use the software.

Promising new cultivars with drought and heat tolerance are being developed. Close to release as new cultivars are plants of abelia, native azalea, and little bluestem.

Programs conducted had both pre and post surveys done to evaluate the skills learned and knowledge obtained. Evaluations also revealed future program needs. The Master Gardener program used a professionally operated evaluator to assess the needs and success of the program statewide.

Pre and post test evaluations of trainings, retrospective evaluations and appropriate modifications were implemented. Programs were constantly evaluated and improved based on feedback and evaluations.

Evaluations are used to constantly improve and modify the program. Improved methods of delivery, content of programs are constantly updated. Research results have been evaluated, selected and implemented to address clientele needs. Detailed observation of site and behaviors or participants can be implemented Number of references, citations, web links to published articles can be implemented. In fact, a detailed description of these later efforts has been the topic of the impact statement submitted to the college

As of 2008, the laws and regulations are not yet finalized. We will attempt a survey of water use technique and attitude changes after the crisis passes as rules and regulations expected of growers is changing rapidly. We cannot assess this until the level of new ordinance writing and new rules and edicts from the Governor and city leaders are finished. As of January, 2009, we are still without state water agreements, and our local ordinances are yet to be finalized. Growers reluctant to change are not the main problem. Delays, legal challenges and legislative disagreements in technical language is becoming the larger challenge to adoption of water conservation technology because growers don't want to invest until they see the new laws and regs legislators keep telling them are coming. Water conservation systems may costs tens of thousands of dollars and it you buy the wrong system, and have to retrofit or buy yet another system, growers could face serious financial issues.

Post-training survey to determine effectiveness and additional needs.

The trainings and publications were successful in familiarizing the target audience with plant pathology topics.

Highlights are being placed on nomination website.

Key Items of Evaluation

Program #19

V(A). Planned Program (Summary)

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
307	Animal Management Systems	5%	5%	5%	5%
315	Animal Welfare/Well-Being and Protection	5%	5%	5%	5%
608	Community Resource Planning and Development	5%	5%	5%	5%
802	Human Development and Family Well-Being	15%	15%	15%	15%
806	Youth Development	70%	70%	70%	70%
	Total	100%	100%	100%	100%

V(C). Planned Program (Inputs)

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

Year: 2008	**Extension**		**Research**	
	1862	**1890**	**1862**	**1890**
Plan	2.5	1.2	0.0	0.0
Actual	3.5	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**
301037	294445	0	0
1862 Matching	**1890 Matching**	**1862 Matching**	**1890 Matching**
301037	294445	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

Over 250 trees have been visited and documented.

I facilitated twenty-four (24) 4-H Science Club Meetings Sessions, forty-eight (48) 4-H Leadership Club Meetings Sessions, and seventy-two (72) 4-H Entrepreneurship Club Meetings Sessions.

Training programs and materials were developed to teach them about the projects. Youth fed and managed livestock. Shows were held for cattle, swine, sheep and goats to allow youth to demonstrate their skills.

The Georgia Youth Summit is a biannual event and was completed during 2008 with representation from throughout Georgia. The 4-H Ambassador program trained youth and adult partners in Health Rocks, Operation Military Kids, and Global Awareness. The Ambassadors have completed 3 months of activities sharing information learned from training. Through the Operation Military Kids program, youth have been trained to lead programs for military families. Additional six youth were selected to attend National 4-H Conference and the leadership in Action Program was completed. Additionally, training through Community of Opportunities has been offered to plan and conduct community programs in service regions in south Georgia.

2. Brief description of the target audience

Extension agents, master gardeners, arborists, city foresters.

The Fort Valley State University Cooperative Extension 4-H and Youth Development of Life Skills Program target audience are low-income and limited resource families, individuals and Children – K through 12th grade.

Young people 6-19 years of age are the primary audience. Parents, teachers and county agents are a secondary audience for training as it relates to involvement with youth programs.

Georgia Youth Summit is targeted for high school youth and adult teams from counties in Georgia. Civic engagement inservice training is targeted for county faculty Civic engament web based materials are targeted for adults working with youth including county faculty and 4-H volunteers as well as youth. National 4-H Conference targets high school age youth. 4-H Ambassadors target high school age youth and adult partners. Operation Military Kids is targeted to families, with a priority on youth, who have members serving in the armed forces or reserves.

V(E). Planned Program (Outputs)

1. Standard output measures

Target for the number of persons (contacts) reached through direct and indirect contact methods

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	**Target**	**Target**	**Target**	**Target**
Plan	1350	2000	5325	5000
2008	8408	15399	36544	6877

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

Patent Applications Submitted

Year	Target
Plan:	0
2008 :	0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

	Extension	Research	Total
Plan	0	0	
2008	10	0	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
2008	750	927

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
2008	200	941

Output #3

Output Measure

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

Year	Target	Actual
2008	7	20

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 as a direct result of this program.
4	Importance of Science, Math and Technology educational programs

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
2008	150000	1268963

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

The Fourth Biennial Georgia Youth Summit was held at the Rock Eagle 4-H Center in September, 2008. The Georgia Youth Summit was designed around the latest research on positive youth development practices and program development models. The state 4-H staff wanted to create an awareness of state/local issues, to enhance youth-adult partnerships on the local level, and to equip youth to become active locally. They were trained to identify problems and develop solutions for issues related to economic development, education, health and safety. A total of 765 participants from 137 Georgia counties attended the Summit, which is sponsored by the Georgia Rural Development Council and the Georgia Department of Community Affairs as part of their Youth Leadership Initiative. At the Summit, every county group explored the issues affecting their communities and developed an action plan to help address the problem. To assist county teams in accomplishing the goals they set while attending the 2008 Georgia Youth Summit, Georgia 4-H will administer a mini-grant program to help them get their program started.

The Georgia 4-H Environmental Education Program provides a network of learning experiences across Georgia that allows youth to learn science and other content in the context of the real world environment. This 4-H Program offers day and residential field studies at five sites from the mountains to the sea. The programs use the outdoors as a classroom without walls, are aligned with the current state education standards, keep students active and engaged in classes for up to eight hours a day, are taught by well-trained and college-educated instructors, uses hands-on approaches to put learning in the context of the real world environment, and help to create and sustain bonds between teachers and students. During the 2007-08 school year, the five 4-H Centers across Georgia reached more than 37,000 participants and since its inception in 1979, the total program has served almost 750,000 participants.

4. Associated Knowledge Areas

KA Code	Knowledge Area
802	Human Development and Family Well-Being
806	Youth Development
315	Animal Welfare/Well-Being and Protection
608	Community Resource Planning and Development
307	Animal Management Systems

Outcome #2

1. Outcome Measures

Percentage of program participants reporting increased knowledge after program participation.

Not reporting on this Outcome for this Annual Report

Outcome #3

1. Outcome Measures

Number of invited presentations as a direct result 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
2008	{No Data Entered}	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
608	Community Resource Planning and Development
802	Human Development and Family Well-Being
806	Youth Development

Outcome #4

1. Outcome Measures

Importance of Science, Math and Technology educational programs

2. Associated Institution Types

- 1862 Extension
- 1890 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2008	{No Data Entered}	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

In the state of Georgia, Drug Prevention, Teen Pregnancies, Poverty, High School Drop-out rate, and Juvenile incarceration. Currently 5,035 of Georgia's children, 17 or younger, live in juvenile or adult correctional facilities. Research indicates a clear correlation between adolescents and teenagers with poor reading comprehension, science and mathematics education and who are most likely to become a resident of Georgia's juvenile or adult correctional facilities.

4. Associated Knowledge Areas

KA Code	Knowledge Area
608	Community Resource Planning and Development
806	Youth Development
802	Human Development and Family Well-Being

V(H). Planned Program (External Factors)

External factors which affected outcomes

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

Brief Explanation

Weekly 4-H program activities do not cost youth participants as long as the 1890 Extension funds continue to provide funding for these programs. However; the 2008 American Economy was recorded as the worst American Economy since the Great Depression. These economic challenges or external factors have affected the outcome of 4-H Programming activities.

Since this progam involves several types of food animals, changes in any production factor or population changes can affect individual components of the program. This includes prices and economical influences.

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)
- During (during program)
- Time series (multiple points before and after program)

Evaluation Results

All youth participants were given a test in the beginning and a test at the end of the subject areas of entrepreneurship, leadership, and science education that were taught to them. Evaluation of studies was based on the pre-testing and post-testing.

Highlights are being placed on nomination website.

A record of numbers of youth were involved in projects.

Key Items of Evaluation

Program #20

V(A). Planned Program (Summary)

1. Name of the Planned Program

TEAM Success 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
806	Youth Development	100%	100%	100%	100%
	Total	100%	100%	100%	100%

V(C). Planned Program (Inputs)

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

Year: 2008	**Extension**		**Research**	
	1862	**1890**	**1862**	**1890**
Plan	0.0	1.0	0.0	0.0
Actual	0.0	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**
0	0	0	0
1862 Matching	**1890 Matching**	**1862 Matching**	**1890 Matching**
0	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

2. Brief description of the target audience

V(E). Planned Program (Outputs)

1. Standard output measures

Target for the number of persons (contacts) reached through direct and indirect contact methods

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
Plan	0	0	300	600
2008	0	0	0	0

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

Patent Applications Submitted

Year	Target
Plan:	0
2008 :	0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

	Extension	Research	Total
Plan	0	0	
2008	0	0	0

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Educational Contact Hours of formal programming directly to target audience

Year	Target	Actual
2008	30	0

Output #2

Output Measure

- Educational Contact Hours of formal programming to faculty/staff in support of local programming.

Year	Target	Actual
2008	20	0

Output #3

Output Measure

- TEAM Success Mentoring Program
  - Number of Applications

Year	Target	Actual
2008	9	0

Output #4

Output Measure

- Team Success Career Day/Campus Number of Flyers News Releases

Year	Target	Actual
2008	300	0

Output #5

Output Measure

- TEAM Success High School Visitation/Career Day Number of Visits

Year	Target	Actual
2008	2	0

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O No.	OUTCOME NAME
1	TEAM Success Mentoring Program Number of students who expressed an interest in Extension Number of students who decided to pursue Extension careers
2	TEAM Success Career Day/Campus Number of students who expressed an interest in Extension Number of students who decided to pursue Extension careers
3	TEAM Success High School Visitations/County Number of students who expressed an interest in Extension Number of students who decided to pursue Extension careers

Outcome #1

1. **Outcome Measures**

TEAM Success Mentoring Program Number of students who expressed an interest in Extension Number of students who decided to pursue Extension careers

Not reporting on this Outcome for this Annual Report

Outcome #2

1. **Outcome Measures**

TEAM Success Career Day/Campus Number of students who expressed an interest in Extension Number of students who decided to pursue Extension careers

Not reporting on this Outcome for this Annual Report

Outcome #3

1. **Outcome Measures**

TEAM Success High School Visitations/County Number of students who expressed an interest in Extension Number of students who decided to pursue Extension careers

Not reporting on this Outcome for this Annual Report

V(H). Planned Program (External Factors)

External factors which affected outcomes

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

Brief Explanation

{No Data Entered}

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}