

2014 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 the University of Georgia (UGA) and Fort Valley State University (FVSU) and brief summaries for each of the eight 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 13 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 central Georgia; and the Coastal Plain in the south. Elevations range from sea level to 4,784 feet at Brasstown Bald in the Blue Ridge Mountains.

Georgia's 2014 estimated population was 10,097,343. The US Census reported 24.9% of Georgians were under age 18 and 12% of the state's population was 65 or older. According to the census, Georgians identified themselves as 54.8% white, 31.4% African American, 9.2% Hispanic or Latino, and 3.7% Asian. Georgia Cooperative Extension has 167 offices in 157 of Georgia's 159 counties. FVSU and UGA county personnel are housed jointly in county offices. Extension programming in the areas of Agricultural and Natural Resources, Family and Consumer Sciences and 4-H is delivered as both individual county effort and as multi-county programming. State faculty members deliver training to county agents and 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 campuses 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, family and consumer skills, 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 in 2014 are highlighted here.

Animal Production

The Georgia Heifer Evaluation and Reproductive Development (HERD) Program tested heifers at the Calhoun Bull Evaluation Center near Calhoun and the Tifton Bull Evaluation Center near Irwinville. UGA animal and dairy scientists evaluate the heifers for pelvic area, frame score, reproductive tract score, disposition score, and structure. They are heat synchronized, artificially inseminated, and then exposed to carefully selected calving ease bulls. Four detailed reports are provided to producers during the evaluation and development period. At the end of the development period, pregnant heifers that meet all qualifications are eligible for the sale. Producers have the option of selling their eligible heifers or taking them back home as replacements.

The University of Georgia's Veterinary Entomology Program provides research and extension outreach for Georgia's cattlemen, dairies, horse owners, poultry producers, and over 6 million pet owners. In addition to answering questions about controlling common pests, we investigate relevant problems, such as the ability of darkling beetles to transmit pathogens like Salmonella.

Improved reproductive management in cattle to lowered calving intervals and days to first service and improved fertility and heat detection.

Food Safety

At the request of several meat goat growers, the Fort Valley Agricultural Research Station developed a targeted meat Hazard Analysis & Critical Control Points (HACCP) and food safety workshop that was presented July 8, 2014, at Fort Valley State University with 22 attendees from the meat goat industry and FVSU Animal Science Department.

In 2014, at least 380 managers were certified in Extension ServSafe® programs. The number completing ServSafe employee training was 567. All Extension foodservice programming in 2014 provided at least 1460 educational contact hours to citizens of Georgia.

Statewide, 78 programs in home food preservation programs were provided representing 825 educational contact hours. These included hands on workshops, demonstrations and other presentations. Program participants numbered 1120, but over 4500 contacts were made in the area of home food preservation. Statewide in 2014, FACS Extension Agents and 4-H Agents reported reaching 579 adults and 3,052 youth with "Wash Your Paws, Georgia!" handwashing education.

Health & Nutrition

The FVSU nutrition program has been able to educate clients on nutrition and health concerns. With the encouragement to clients of advancing their diets to alternative meats and fresh fruits and vegetables, local grocery stores now offer more variety of low fat/lean meats than previously offered. With locally grown fruits and vegetables the local farmers market has offered a varied time schedule for local shoppers. Local farmers have also donated products for demonstration purposes.

Home & Life Skills

Participants in financial management workshops were significantly more likely to say they would: set goals about how to spend money and discuss with family; place more priority on paying bills on time; track spending to see where money goes; prepare a budget every month; set money aside for emergencies; comparison shop before buying financial products or services; and ask why personal information is needed before providing it to others. In terms of key concepts, participants were significantly more likely to say

they understood the end cost of rent to own; what to do if personal information is stolen; how to budget in a crisis situation; and to compare loans by examining APR.

A partial entrepreneurship curriculum was developed and collaboration with outside entrepreneurship stakeholders was established. Several potential entrepreneurs were assisted in evaluating and establishing businesses in rural Georgia.

Participants of the homebuyer education workshops became homeowners through group classes, one-on-one counseling and financial incentives offered by federal and state partners. Participants of GREEN programming on average increased their knowledge by 19%. Homebuyer education classes impacted the overall state economy by transitioning 11 families to home ownership. The estimated value was over one million dollars.

Over the past two years, the Specialists, CAES testing lab, and Monroe County Agents have been working together to help the community address high radon levels in air and water. Our work resulted in the affected communities being connected to city water to reduce the risks of their well water, and the purchase of a liquid scintillation device to begin testing for radon in water.

Plant Production

Over 150 different pecan varieties have been tested at the Coastal Plain Experiment Station. New varieties are constantly being added so that the latest and most useful varieties are represented. Results from this planting have been instrumental in the release and adoption of several recent pecan varieties including: 'Caddo', 'Pawnee', 'Oconee', 'Excel', 'Sumner'. Just as importantly, this planting has eliminated many unsuitable cultivars before they were planted in grower orchards where their failure would have been disastrous. Athens based researches have also released seven new Pecan varieties developed at the UGA Horticultural farm in Watkinsville, GA: Byrd, Tom, Huffman, Morrill, Cunard, Treadwell and Whiddon. Shading of bell pepper plants greatly affected fruit quality. Incidence of fruit physiological disorders (sunscald) decreased with increasing shading levels.

Effective fungicides and resistant genetic sources were identified to significantly reduce losses caused by the diseases. In addition, studies in the project to determine genetic diversity in pathogen populations and pathogen infection courts leading to seed infestation will facilitate development of more effective disease management approaches.

Researchers demonstrated that effective nematicides can be derived from fungal fermentation through an extensive series of on farm trials. Products are available for licensing through the UGA Technology Office. Our work to date on soil fumigation, soil amendment with pine bark and use of plastic mulches has made continued production of highbush blueberry on replant sites in Georgia economically feasible.

Impacts from our breeding, genetics and genomics programs include but are not restricted to: graduates from these programs, scientifically based information, training of professionals, development of new technologies and direct and indirect influence on policy and regulations.

The LIFE Program was able to increase the overall knowledge of 250 landowners in the following topic areas: wills and estate planning by over 70%; timber management and marketing by over 50%; USDA cost sharing programs by over 50%; wildlife management by over 45% and land management including surveying by over 60%. A total of 45 estate plans were completed for minority landowners providing clear title to over three million dollars in total assets including forestland.

Sustainability, Conservation & the Environment

These programs are beginning to have an impact on the decisions of some local and state government officials, and in the economic prospects of certain communities.

The survivability and performance of the agribusiness industry was improved as a result of this program. Most poultry companies in GA are now incorporating enzymes in their rations that increase phosphate (P) availability and thus reduce P excreted in poultry manure. Poultry industry representatives, poultry farmers and litter brokers 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.

Camellia oleifera plants are climatically adapted to the Coastal Plain region of the United States and

selections have been made which yield high quantities of oil.

In the area of water conservation, growers are implementing drip irrigation, turning off irrigation during rain and delaying watering after rain events. We are testing soil moisture sensors that will dramatically improve control and efficiency of water use in greenhouses and nurseries. Current data shows we can grow quality crops using 70% less water and fertilizer than conventional growing methods. On farm research has shown that more efficient irrigation can have a direct financial benefit for growers: due to a decrease in disease incidence with better irrigation, one of our collaborating nurseries was able to reduce production costs by \$1/sq. ft.

Urban Agriculture

Improved control strategies for warm and cool season grasses. Research findings have facilitated the availability of some four commercial fungicides now labeled in turfgrass. As a result of these efforts, strategies for better timing of application, alternative dosages, new formulations, and optimal application methods for fungicides have been developed.

This research demonstrated that genomic data can be used to design a genetic screen to identify plants with sequence diversity in a particular gene. This approach can be applied to identify natural genetic diversity, as in this case, or induced genetic diversity.

Youth & Family Development

Since October 1, 2013, FACS Extension Agents have provided a total of 996 educational contact hours across 25 two hour Basic Core Skills sessions. These sessions have helped 642 child care professionals meet annual training requirements to maintain child care licensing.

The FVSU 4-H program engaged 12,543 youth in healthy living, science, entrepreneurship, and leadership experiential learning opportunities in an effort to increase their knowledge, skills, and competencies.

According to the national 4-H council online common measures youth survey results, 85% of youth who participated in the survey indicated the following impact results:

- 85% Improved dietary choices
- 91% Improved attitude toward and understanding of healthful foods
- 97% Increased willingness to try new nutritional foods
- 82% Increased understanding of the elements of sound nutrition and daily caloric needs versus physical exercise
- 71% Increased participation by the family in eating together.

In 2014, 2426 middle and high school students competed in 4-H Junior and Senior Project Achievement. Youth involved build participate in sharing and service activities in their communities. In addition, 128 youth participated in Leadership In Action and the 4-H Ambassador Program, in which they identified ways to serve their communities.

Georgia 4-H's total enrollment for 2014 was 175,372 youths. The Georgia 4-H Environmental Education Program offers day and residential field studies at five sites from the mountains to the sea. The five locations are Wahsega 4-H Center in Dahlonega, Fortson 4-H Center in Hampton, Rock Eagle 4-H Center in Eatonton, Burton 4-H Center on Tybee Island, and the Jekyll Island 4-H Center. 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, use 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 2013-14 school year, the five 4-H Centers across Georgia reached 42,228 participants and since its inception in 1979, the total program has served over 1,035,000 participants. Evaluation data collected throughout the year demonstrates a statistically significant increase in participants' (1) positive relationships with their classmates, (2) positive relationships with their teacher, (3) knowledge about the ecosystem of Georgia, (4) knowledge that their behaviors affect the environment, and (5) connection to nature.

The Family Life program has been able to strengthen families of Georgia by increasing their parenting and

relationship skills. The program has also provided youth the skills to be more confident and self-assured in their talents and potential. Seniors have been able to learn more about health and leisure options open to them at low cost. These advances allow families to become less stressed in meeting their goals/obligations to family and society.

***EXAMPLES OF COLLABORATIVE EFFORTS**

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.

Animal Production

Aquaculture: Each year FVSU hosts four to six aquaculture workshops at FVSU at the Georgia Center for Aquaculture Development (GCAD) with the participation of UGA. UGA faculty provided 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.

Meat and Dairy Goat Production and Processing: There is 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 email on technical issues and problem solving are all examples of collaborative efforts where faculty work together to meet the needs of the state clientele.

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.

Animal Production and Protection: Several UGA faculty served 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.

Food Safety

UGA Extension has led a multi-state project to train farmers and market managers. More than 500 farmers and 140 market managers in three states have been reached by agents trained as a part of the project. A convenience sample of farmers and market managers completing workshop evaluations yielded 328 completed farmer evaluations and 114 completed market manager evaluations.

Health & Nutrition

During the pilot year, youth and adults were trained on key messages to raise awareness of the correlation of hunger to obesity. Information from the Georgia Food Bank Association, Children's Healthcare of Atlanta, and University of Georgia Extension has been combined with best practices for youth and adult partnerships to yield a program that has the potential for significant impact in our state and the ability for replication in other state 4-H and youth programs. Wendy Palmer, manager for Child Wellness Solutions for Children's Healthcare of Atlanta shares, "Children's Healthcare of Atlanta is excited to collaborate with 4-H and the GFBA on the 4-H HOPE program."

Plant Production

In addition to significantly increasing the number of native plant species that we are propagating at the State Botanical Garden's Mimsie Lanier Center for Native Plant Studies, we have cooperated with state and federal agencies to provide plants for restoration and habitat rehabilitation projects. Our native plant sale events for the public have become increasingly popular and our ties with the green industry in Georgia have been strengthened.

Sustainability, Conservation, and the Environment

UGA specialists worked with FVSU on their project GREEN (energy conservation). This project has had a significant impact on the counties they serve.

Urban Agriculture

The Healthy Life Community Garden helped focus attention on the historic Rosenwald School in Griffin and catalyzed the creation of a steering committee for community development. The committee invited the Center of Community Design and Preservation (CCDP) of the UGA College of Environment and Design to hold a charrette (collaborative effort to create design solutions) in the Fairmont community. The resulting design plans will be used to solicit support and seek funding for Fairmont Community revitalization. In the area of turfgrass disease management, science based knowledge on turfgrass disease identification and control has been shared with academic colleagues and industry professionals in Spain and Mexico.

Total Actual Amount of professional FTEs/SYs for this State

Year: 2014	Extension		Research	
	1862	1890	1862	1890
Plan	44.5	7.2	20.5	22.6
Actual	280.0	13.2	202.0	41.3

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 respective merit review processes. 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 multi-state/integrated projects which undergo an extensive review by the Southern Association of Agricultural Experimental Station Directors. Extension reviews the quality and relevance of the state program goals at the State, District, and County levels. Departmental Extension Coordinator Contacts provide insight at the state level. The Program Development Team is the district level input. This team consists of the district program development coordinators, evaluation specialist, and Extension administrators. County agents provide input directly to the Program Development Team and the State Extension Coordinators. The constituents provide input through the County Council as part of the Extension Leadership System.

III. Stakeholder Input

1. Actions taken to seek stakeholder input that encouraged their participation

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

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

Brief explanation.

After visiting with local advisory committees, county agents provide data directly to state specialists through listening group meetings which are conducted annually and by individual department for a total of a dozen or more meetings. The data from these agent/specialist sessions is then analyzed by the state program development team and recommendations are made for next year's programming. County agents also use input from advisory committees to plan, execute, evaluate and communicate programming at the local level.

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

1. Method to identify individuals and groups

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

Brief explanation.

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

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

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

1. Methods for collecting Stakeholder Input

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

Brief explanation.

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

3. A statement of how the input will be considered

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

Brief explanation.

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

Brief Explanation of what you learned from your Stakeholders

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

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

-Stakeholders are seeking a greater partnership with the College and are willing to contribute their time, talent and resources to build the overall College. Most are placing the long term survival and enhancement of the College above the needs of their particular operation, organization or community. They want to be part of the solution knowing that

IV. Expenditure Summary

1. Total Actual Formula dollars Allocated (prepopulated from C-REEMS)			
Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
8085348	2586213	6145288	3071170

2. Totaled Actual dollars from Planned Programs Inputs				
	Extension		Research	
	Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
Actual Formula	8115215	2586213	5372432	3071170
Actual Matching	8115215	2586213	5372432	3071170
Actual All Other	0	0	0	0
Total Actual Expended	16230430	5172426	10744864	6142340

3. Amount of Above Actual Formula Dollars Expended which comes from Carryover funds from previous				
Carryover	29867	0	0	0

V. Planned Program Table of Content

S. No.	PROGRAM NAME
1	Animal Production
2	Food Safety
3	Health & Nutrition
4	Home & Life Skills
5	Plant Production
6	Sustainability, Conservation & the Environment
7	Urban Agriculture
8	Youth & Family Development

V(A). Planned Program (Summary)

Program # 1

1. Name of the Planned Program

Animal Production

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

V(C). Planned Program (Inputs)

1. Actual amount of FTE/SYs expended this Program

Year: 2014	Extension		Research	
	1862	1890	1862	1890

Plan	9.5	2.5	2.0	10.8
Actual Paid	12.1	2.0	9.5	6.8
Actual Volunteer	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
1402773	718393	1010655	926118
1862 Matching	1890 Matching	1862 Matching	1890 Matching
1402773	718393	1010655	926118
1862 All Other	1890 All Other	1862 All Other	1890 All Other
0	0	0	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

Research was conducted. County, regional, state, and multistate meetings, trainings, and workshops were held. Field days, on-site visits, tours, and hands-on sessions took place. Diagnostic services were provided.

Research findings were shared via bulletins, newsletters, eXtension, lay-person articles, industry publications, peer-reviewed journals, scientific proceedings, state and national conferences, broadcast media, websites, and expos.

Aquaculture

GCAD continued improvement and operation of facilities. Sustainable aquaculture was demonstrated in campus greenhouses. The number of aquaponic units in the greenhouses increased to 28 units.

Beef Cattle

The HERD program provided information on proper management nutrition and health. The 2014 bull sales -169 people registered with 59 buyers, purchasing the 88 beef bulls.

UGA's Beef Team offered the Master Cattlemen's Program. Ninety-nine cattlemen attended 5 to 7 sessions around the state to receive certification.

Experts on the development of forage from several UGA departments provided up to date industry information to participants. Participants included producers and agents from GA, FL, and AL - more than 2,500 head of cattle.

Specialists updated 11 sections in the Georgia Pest Management Handbook. A reduction in pesticide misuse was observed. Researchers collaborated with all the state's food animal associations, as well as the pest control associations.

Dairy Cattle

New treatments were developed that successfully controlled of mastitis and improved animal health. New models and software were developed.

Specialists served as liaison between the ADS Department and several groups.

Research was done on reducing heat stress in dairy cattle. Improved techniques were developed, resulting in improved fertility and milk production.

Poultry

Nutrient management planning programs continued to have a positive impact on the environment. Research and training continued on issues of nutrient management, nutrient balance, and sustainable water quality.

Small Ruminant

Over 450 responses were made to technical inquiries via email and phone. Georgia National Guard troops were trained prior to deployment to Afghanistan.

Researchers studied the effect of various preslaughter factors.

Researchers prepared genome walker libraries and submitted this information in GenBank. Fibroblast cell lines were established.

Equine

A Master Equine Specialist program was developed to be delivered in 6 to 8 week meetings weekly.

Environmental assessment and a conversation plan were conducted for those receiving the certification.

Apiculture

Efforts are underway in development of sustainable honey bee. IPM programs and studies on the ecology of honey bees and pollination continue. Georgia now provides national leadership in honey bee research and outreach.

Research is ongoing in colony collapse disorder and with collaborators throughout the US. Pollination studies were conducted. Breeding for resistance to pests was continued as well.

2. Brief description of the target audience

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

3. How was eXtension used?

There are currently 6 leaders and 56 active members associated Communities of Practice related to this planned program.

The membership in eXtension has continued to grow. Overall, there are currently 291 members in Communities of Practice in 62 approved communities (Up from 150 members in 59 communities in 2012). 190 questions were answered by in-state experts.

V(E). Planned Program (Outputs)

1. Standard output measures

2014	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Actual	5009	25725	1590	2990

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

Patent Applications Submitted

Year: 2014

Actual: 0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2014	Extension	Research	Total
Actual	11	30	41

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

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

Year	Actual
2014	34

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	Actual
2014	602

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	Actual
2014	1827

Output #4

Output Measure

- Number of invited presentations by faculty directly resulting from the success of this planned program.

Year	Actual
2014	73

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 result of the work of faculty receiving federal funds within this planned program.
2	Number of Master Cattlemen certifications granted through this planned program.
3	Increase in the farm gate value of livestock production in Georgia. Reported in millions of dollars.
4	Farm gate value of poultry production in Georgia. Value reported annually in millions of dollars.

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 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	Actual
2014	680430

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Faculty associated with federal funds also make indirect contacts to clientele. These federally funded positions provide further impact to the community through county faculty, staff and volunteers not receiving federal funds. This county level programming results in thousands of additional direct Extension contacts.

What has been done

County faculty have presented research based information directly to clientele through presentations, workshops, on-site visits, meetings, and other trainings.

Results

Extension extended lifelong learning to the people of Georgia through unbiased, research-based education.

4. Associated Knowledge Areas

KA Code	Knowledge Area
301	Reproductive Performance of Animals
303	Genetic Improvement of Animals
304	Animal Genome
307	Animal Management Systems

311	Animal Diseases
601	Economics of Agricultural Production and Farm Management
701	Nutrient Composition of Food

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	Actual
2014	99

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

To be competitive in the beef market, producers must understand existing beef management practices as well as become informed of new technologies as they are developed.

What has been done

The University of Georgia's "Beef Team" is currently offering the Master Cattlemen's Program. This program involves detailed, in-depth educational seminars related to beef cattle.

Results

There were 99 participants in the Master Cattlemen program in 2014.

4. Associated Knowledge Areas

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

Outcome #3

1. Outcome Measures

Increase in the farm gate value of livestock production in Georgia. 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	Actual
2014	176629757

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
301	Reproductive Performance of Animals
303	Genetic Improvement of Animals
304	Animal Genome
307	Animal Management Systems
311	Animal Diseases
601	Economics of Agricultural Production and Farm Management
701	Nutrient Composition of Food

Outcome #4

1. Outcome Measures

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

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Actual
2014	5

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Poultry production is one of Georgia's largest agricultural industry, and agriculture is Georgia's largest industry.

What has been done

A survey of Georgia Cooperative Extension county agents and commodity specialists was conducted for the purpose of providing annual county-level information for the value poultry production.

Results

The Farm Gate value of poultry was \$5,438,180,731.

4. Associated Knowledge Areas

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

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

- Weather conditions, high feed prices and marketing situations from milk diversions and pooling.
- Regulations and the interpretation and enforcement of the rules are constantly evolving and impacting our programs. The increases in fertilizer prices are 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, weather inconsistencies have 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.
- Increased cost of wood shavings has lengthened cycles between broiler house cleanouts, increasing darkling beetle populations and putting greater pressure on control strategies.
- High beef prices have made cattle more valuable, leading to producer willingness to invest more in pest management.
- Price of commercial fertilizer will promote the use of organic fertilizers in areas of crop production outside of the poultry producing region.

V(I). Planned Program (Evaluation Studies)

Evaluation Results

- At the completion of the workshops evaluations were given to workshop participants for comments on each topic of the workshop. An overwhelming positive response was given by the workshop participants on the usefulness and quality of information available at the different workshops.
- One case study on beef marketing was completed. One set of "before" data was

collected to measure impact following intervention of deworming protocol. Three "after only" assessments were conducted. Response to evaluation of Small Ruminant Toolbox training for Extension Educators was completed and outcomes were positive.

- Preliminary data show that growing goats supplemented with 95% pelleted sericia lespedeza leaf meal grow as well as those supplemented with 16% CP commercial pellets.
- Surveys, data analysis, and pregnancy evaluations were positive.
- Submission rate of poultry litter samples to the lab for analysis to aid in NMP decisions increased.
- Program evaluations were completed by participants and case studies were done on specific programs such as the Beekeeping Institute and changes were made as appropriate. Findings were positive.
- 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. In addition, annual evaluations of productivity are made.

Key Items of Evaluation

Workshops were well received and showed an overall increase in knowledge and satisfaction with the programs.

Analysis and techniques taught improved product quality and value.

V(A). Planned Program (Summary)

Program # 2

1. Name of the Planned Program

Food Safety

Reporting on this 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
202	Plant Genetic Resources	0%	0%	1%	0%
204	Plant Product Quality and Utility (Preharvest)	0%	0%	8%	0%
301	Reproductive Performance of Animals	0%	0%	1%	0%
302	Nutrient Utilization in Animals	0%	0%	3%	0%
307	Animal Management Systems	0%	0%	1%	0%
311	Animal Diseases	5%	25%	11%	0%
315	Animal Welfare/Well-Being and Protection	0%	0%	1%	0%
401	Structures, Facilities, and General Purpose Farm Supplies	0%	0%	1%	0%
501	New and Improved Food Processing Technologies	10%	25%	14%	35%
502	New and Improved Food Products	10%	0%	11%	0%
503	Quality Maintenance in Storing and Marketing Food Products	10%	0%	13%	25%
511	New and Improved Non-Food Products and Processes	0%	0%	2%	0%
606	International Trade and Development Economics	0%	0%	4%	0%
701	Nutrient Composition of Food	5%	0%	3%	20%
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins	30%	25%	22%	20%
723	Hazards to Human Health and Safety	30%	25%	4%	0%
	Total	100%	100%	100%	100%

V(C). Planned Program (Inputs)

1. Actual amount of FTE/SYs expended this Program

Year: 2014	Extension		Research	
	1862	1890	1862	1890
Plan	2.5	0.2	1.5	11.8

Actual Paid	2.5	0.2	2.0	9.8
Actual Volunteer	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
289829	89799	212770	1327889
1862 Matching	1890 Matching	1862 Matching	1890 Matching
289829	89799	212770	1327889
1862 All Other	1890 All Other	1862 All Other	1890 All Other
0	0	0	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

Research was conducted. County, regional, state, and multistate meetings, trainings, and workshops were held. Hands-on sessions took place. Research findings were shared via bulletins, newsletters, eXtension, lay-person articles, industry publications, peer-reviewed journals, scientific proceedings, state and national conferences, broadcast media, websites, and expos. Food Safety research and studies continued. County, regional, state, and multistate meetings, trainings, and workshops were held. Hands-on sessions took place. Information was shared via bulletins, newsletters, eXtension, lay-person articles, industry publications, peer-reviewed journals, state and national conferences, websites, print and broadcast media. In 2014, Fort Valley State University created a new Hazard Analysis & Critical Control Points (HACCP) certification. A total of 226 attendees have received HACCP certification at the meat and poultry HACCP workshops 2010 - 2014. The Poultry School en espanol (taught entirely in Spanish) has had a total of 186 attendees from Mexico, Central and South America 2010-2014. Curriculum packages, lesson plans, and other food safety teaching tools were developed and disseminated to Extension Agents for use in county programming. ServSafe trainings were conducted. Food Safety was taught in college classes. Research has been and continues to be conducted on food safety as related to poultry. Evaluation of novel chemistry techniques to disinfect or remove microbial pathogens from poultry products have been conducted in research and field studies. Individual processing plants in GA have been visited and provided assistance

2. Brief description of the target audience

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

3. How was eXtension used?

There are currently 10 active members associated Communities of Practice related to this planned program.

The membership in eXtension has continued to grow. Overall, there are currently 291 members in Communities of Practice in 62 approved communities (Up from 150 members in 59 communities in 2012). 190 questions were answered by in-state experts.

V(E). Planned Program (Outputs)

1. Standard output measures

2014	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Actual	16720	70449	3599	996

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

Patent Applications Submitted

Year: 2014

Actual: 0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2014	Extension	Research	Total
Actual	4	4	0

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	Actual
2014	1583

Output #2

Output Measure

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

Year	Actual
------	--------

2014 14

Output #3

Output Measure

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

Year	Actual
2014	176

Output #4

Output Measure

- Number of invited presentations by faculty directly resulting from the success of this planned program.

Year	Actual
2014	29

Output #5

Output Measure

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

Year	Actual
2014	930

Output #6

Output Measure

- Food Preservation website number of files viewed
Not reporting on this Output for this Annual Report

Output #7

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	Actual
2014	772

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 result of the work of faculty receiving federal funds within this planned program.
2	Average percentage of increase food safety test scores as a result of programs conducted statewide.
3	Multiple or repeat attendance by food processing company personnel (ie, company sends more than one person to our course(s) from one year to the next)
4	Number of agents increasing knowledge as a result of food safety training by specialist.

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 result of the work of faculty receiving federal funds within this planned program.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2014	164188

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Faculty associated with federal funds also make indirect contacts to clientele. These federally funded positions provide further impact to the community through county faculty, staff and volunteers not receiving federal funds. This county level programming results in thousands of additional direct Extension contacts.

What has been done

County faculty have presented research based information directly to clientele through presentations, workshops, on-site visits, meetings, and other trainings.

Results

Extension extended lifelong learning to the people of Georgia through unbiased, research-based education.

4. Associated Knowledge Areas

KA Code	Knowledge Area
202	Plant Genetic Resources
204	Plant Product Quality and Utility (Preharvest)
301	Reproductive Performance of Animals
302	Nutrient Utilization in Animals
307	Animal Management Systems
311	Animal Diseases

315	Animal Welfare/Well-Being and Protection
401	Structures, Facilities, and General Purpose Farm Supplies
501	New and Improved Food Processing Technologies
502	New and Improved Food Products
503	Quality Maintenance in Storing and Marketing Food Products
511	New and Improved Non-Food Products and Processes
606	International Trade and Development Economics
701	Nutrient Composition of Food
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins
723	Hazards to Human Health and Safety

Outcome #2

1. Outcome Measures

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

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2014	20

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

CDC estimates that each year roughly 1 out of 6 Americans (or 48 million people) gets sick, 128,000 are hospitalized, and 3,000 die from foodborne diseases.

What has been done

Extension Specialists trained agents to teach consumer food safety and food service education programs.

Results

Twenty percent of participants showed an increase in knowledge of food safety.

4. Associated Knowledge Areas

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

Outcome #3

1. Outcome Measures

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

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2014	36

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Food handlers require ongoing training to stay abreast of the latest in food safety science.

What has been done

ServSafe trainings were offered across the state. Food industry companies sent more than one person to our course(s) from one year to the next.

Results

Thirty-six percent of participants were repeats.

4. Associated Knowledge Areas

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

Outcome #4

1. Outcome Measures

Number of agents increasing knowledge as a result of food safety training by specialist.

2. Associated Institution Types

- 1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2014	161

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

The Economic Research Service (ERS) estimates the cost of foodborne illness from five foodborne illnesses alone at \$6.9 billion per year. In recent years, Georgia had the highest incidence of salmonellosis of all 10 sites monitored by CDC's FoodNet system.

What has been done

Extension Specialists will: 1)Train agents to teach consumer food safety and foodservice education programs. 2)Develop curricula, print and on-line consumer resources, and program evaluations.

Results

Of agents attending training, 161 demonstrated an increase in knowledge about teaching food safety to clientele. Those agents then provided training to food service industry professionals.

4. Associated Knowledge Areas

KA Code	Knowledge Area
503	Quality Maintenance in Storing and Marketing Food Products
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins
723	Hazards to Human Health and Safety

V(H). Planned Program (External Factors)

External factors which affected outcomes

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

Brief Explanation

- Regulations requiring certification of restaurant managers/designated employee increased demand for ServSafe training. Decreases in state funding and loss of county Family and Consumer Sciences Agent positions remain a critical issue.
- Proposed food safety regulations could change the metrics originally proposed.

V(I). Planned Program (Evaluation Studies)

Evaluation Results

- 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 each year. The results of the evaluations were distributed to all speakers, and reviewed during program planning for the next calendar year. A specialized HACCP workshop was also developed for 8 internationals from Kagoshima University in Japan. The workshops from 2011 - 2014 have been well attended and received high marks on the participant evaluations, ranging from 4.39 to 4.89 out of possible 5.0 in the overall course rating.
- Two experiments on textural properties and viability of probiotics in normal goat milk yogurts were conducted to: (1) evaluate the differences in textural properties of caprine milk yogurts fortified with 7 different kinds of gums during 4 weeks refrigerated storage, and (2) investigate the impact of supplementation of 7 different types of gums on the viability of probiotics in caprine milk yogurt during the refrigerated storage. The first study found that locust bean and xanthum were choice of gums for the best textural quality of caprine milk yogurt. The second study showed that the use of gums in goat milk yogurt could maintain the probiotics viability and improve the texture, which may lead to higher consumer acceptability.
- Problem solving activities were able to prevent several poultry processing plants from failing additional food safety inspections and prevented possible plant closings.

Key Items of Evaluation

Workshops were well received and showed an overall increase in knowledge and satisfaction with the programs.

Analysis and techniques taught improved product quality and value.

Based on post-test scores, certifications were earned by clientele in the area of Food Safety.

V(A). Planned Program (Summary)

Program # 3

1. Name of the Planned Program

Health & Nutrition

Reporting on this 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
724	Healthy Lifestyle	34%	0%	34%	0%
802	Human Development and Family Well-Being	33%	0%	33%	0%
806	Youth Development	33%	0%	33%	0%
	Total	100%	0%	100%	0%

V(C). Planned Program (Inputs)

1. Actual amount of FTE/SYs expended this Program

Year: 2014	Extension		Research	
	1862	1890	1862	1890
Plan	3.2	2.0	1.0	0.0
Actual Paid	3.0	0.0	1.0	0.0
Actual Volunteer	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
347795	0	106385	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
347795	0	106385	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

Health and Nutrition research and studies were conducted. County, regional, state, and multistate meetings, trainings, and workshops were held.

Research findings and information were shared via bulletins, newsletters, eXtension, lay-person articles, industry publications, peer-reviewed journals, scientific proceedings, state and national conferences, broadcast media, websites, and expos.

Research continued on natural products that cause adipose tissue apoptosis. Reducing body fat by removing adipocytes through apoptosis has been demonstrated in several experimental paradigms. In school class curricula with a focus on Healthy Lifestyles to include basic nutrition education and drug, alcohol and tobacco use prevention as well as stress reduction pertaining to standardized test were delivered to a majority of Georgia counties. Food Product Development contest and local practice sessions were held and focused on developing new food products, as well as healthy and safe food choices. Statewide youth meetings incorporated classes/workshops on Health Rocks and Hunger Awareness. Health Rocks and Helping Other People Eat (HOPE) Issues Leaders were trained on research based content to replicate with other youth in their county, district and state. The 4 H Pantry Pride contest was held on a state level and educated youth on hunger and the needs of food banks and pantries in their communities. 4 H Summer Camp Health is Our Pledge classes were conducted for all campers attending 4 H Summer Camp.

Specialist conducted local program areas for parents, senior citizens caregivers and the youth of Georgia. Food demonstrations and interactive learning projects were the main style of teaching education for this topic.

2. Brief description of the target audience

Specialists will direct efforts primarily to educating and preparing county agents. As a result, agents will reach parents, guardians, grandparents, child care providers, and other caregivers of children and youth.

The planned program will also target directly limited resources individuals and families.

3. How was eXtension used?

There are currently one leader and 20 active members associated with Communities of Practice related to this planned program.

The membership in eXtension has continued to grow. Overall, there are currently 291 members in Communities of Practice in 62 approved communities (Up from 150 members in 59 communities in 2012). 190 questions were answered by in-state experts.

V(E). Planned Program (Outputs)

1. Standard output measures

2014	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Actual	1756	3600	830	2200

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

Patent Applications Submitted

Year: 2014

Actual: 0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2014	Extension	Research	Total
Actual	10	0	10

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

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

Year	Actual
2014	40

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	Actual
2014	29

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	Actual
2014	97828

Output #4

Output Measure

- Number of invited presentations by faculty directly resulting from the success of this planned program.

Year	Actual
2014	34

Output #5

Output Measure

- Website hits for diabetes, weight control, and cardiovascular disease.
Not reporting on this Output for this Annual Report

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	Percent of people at risk for cancer who chose a lower fat or lower sodium food item.
2	Number of additional direct extension contacts made by volunteers, staff, or county agents not receiving federal funds as a direct outcome of the work of federally funded faculty associated with this planned program.
3	Percentage of participants that lose weight or improve fitness.

Outcome #1

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
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2014	80

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

The development of an estimated 20-40% of cancers are affected by dietary choices. Eating more fruits and vegetables, drinking more fluids, eating more whole grains, consuming more non-fat and low fat dairy foods and being more physically active may help reduce risk for numerous cancers.

What has been done

Extension Specialists trained agents to provide training to adults and youth on nutrition and lifestyle choices that will reduce or control chronic disease. Specialists also developed curricula, print and on-line consumer resources, and program evaluations.

Results

Of training participants, eighty percent lowered fat and/or sodium food items from their diet.

4. Associated Knowledge Areas

KA Code	Knowledge Area
724	Healthy Lifestyle

Outcome #2

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	Actual
2014	389375

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Faculty associated with federal funds also make indirect contacts to clientele. These federally funded positions provide further impact to the community through county faculty, staff and volunteers not receiving federal funds. This county level programming results in thousands of additional direct Extension contacts.

What has been done

County faculty have presented research based information directly to clientele through presentations, workshops, on-site visits, meetings, and other trainings.

Results

Extension extended lifelong learning to the people of Georgia through unbiased, research-based education.

4. Associated Knowledge Areas

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

Outcome #3

1. Outcome Measures

Percentage of participants that lose weight or improve fitness.

2. Associated Institution Types

- 1862 Extension
- 1890 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2014	80

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Two thirds of adults are overweight or obese. Obesity contributes to the development of many chronic diseases including diabetes, hypertension, cardiovascular disease and cancer. Three-quarters of Georgians are inactive which also contributes to these chronic diseases.

What has been done

Extension Specialists trained agents to provide training to adults and youth on nutrition and lifestyle choices that will reduce or control chronic disease. Specialists also developed curricula, print and on-line consumer resources, and program evaluations.

Results

Eighty percent of training participants lost weight and/or improved overall fitness.

4. Associated Knowledge Areas

KA Code	Knowledge Area
724	Healthy Lifestyle
802	Human Development and Family Well-Being

V(H). Planned Program (External Factors)

External factors which affected outcomes

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

Brief Explanation

One external factor which affected the outcome of participants was clientele that were unable to participate in classes because of the economy or personal obligations. New federal policy changes in reference to health and nutrition eligibility programs also had an impact.

V(I). Planned Program (Evaluation Studies)

Evaluation Results

- Studies continue being conducted. Results are promising.
- Health Rocks participants completed a pre test and retrospective post evaluation at the completion of ten hours of study. Less Stress on the Test students completed an evaluation after Less Stress classes/workshops. 9 out of 10 youth participants know that people who smoke or do drugs have serious physical health problems (lung cancer), cognitive issues (illusions) and relationship consequences with family and friends.
- The 4-H HOPE Issue Leaders completed a pre and post assessment with findings that 91% of 4-H Youth Issue Leaders knew that low fat milk was a healthy beverage.
- 100% of 4-H Issue Leaders knew that recommendation for screen time (limit screen time to 1-2 hours per day) (compared to 91% before training)
- 100% of 4-H Issue Leaders knew the recommendation for the amount of fruits and vegetables (half your plate) (compared to 48% before training)
- 91% of 4-H Issue Leaders "agree" or "strongly agree" that I feel that I can get my family to follow healthy physical activity habits (compared to 74% before training)
- 96% of 4-H Issue Leaders "agree" or "strongly agree" that I can get my family to follow healthy eating habits (compared to 87% before training)
- 100% of 4-H Issue Leaders "agree" or "strongly agree" that I feel that I can be a healthy role model in my community (compared to 83% before training)
- 100% of 4-H Issues Leaders "agree" or "strongly agree" that I can identify my leadership skills (compared to 83% before training)

Key Items of Evaluation

Post test scores showed an improvement in knowledge and participants indicated an intent to improve diet and overall health.

V(A). Planned Program (Summary)

Program # 4

1. Name of the Planned Program

Home & Life Skills

Reporting on this 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
607	Consumer Economics	25%	30%	0%	0%
723	Hazards to Human Health and Safety	25%	0%	0%	0%
801	Individual and Family Resource Management	25%	40%	0%	0%
802	Human Development and Family Well-Being	25%	30%	0%	0%
	Total	100%	100%	0%	0%

V(C). Planned Program (Inputs)

1. Actual amount of FTE/SYs expended this Program

Year: 2014	Extension		Research	
	1862	1890	1862	1890
Plan	2.2	1.0	1.0	0.0
Actual Paid	4.8	1.8	0.0	0.0
Actual Volunteer	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
556472	628593	0	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
556472	628593	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 apparel and textiles program was implemented through group discussions, workshops, demonstrations and training supplemented by print and electronic media resources. Preparing for the Workforce publications were developed and distributed to educate the clientele seeking employment. Programs in financial management and family resource management were implemented to strengthen limited resource families and communities to enhance their quality of life.

FVSU's financial literacy program provided 4 workshops to Georgians. The SMARTT Program is an educational program designed to meet the financial literacy needs of Georgians. The program offered specialized instruction to individuals on the application of money management skills and strategies. The program assisted individuals in establishing healthy banking relationships, building assets and securing a better future for themselves and their families.

In UGA's financial literacy program fact sheets were distributed. Six different trainings ranging from 30 minutes to six hours in length were conducted for FACS agents and 4 H agents. In turn, agents provided training to other clients. More than 50 news articles were developed for distribution by agents to media outlets.

A partial entrepreneurship curriculum was developed. Collaboration with agricultural economics faculty and masters level classes connected several aspiring entrepreneurs with researchers who were able to provide assistance with feasibility studies and financial evaluation.

The housing education program offered homebuyer education workshops to 163 consumers throughout the year. The workshops raised consumer awareness of programs available to assist with homeownership needs. Fourteen participants purchased homes valued at approximately \$1.4 million.

FACS Agents continue to receive ongoing updates and information to keep their knowledge about the housing market current. Partnerships with local agencies have been established.

In the area of indoor air quality, publications and news articles were distributed to agents for use in local programs and media outlets. Additional research based information on ways to improve indoor environment was disseminated through the UGA GreenWay online network (www.ugagreenway.org) that includes a web page, Facebook, twitter, YouTube, and blog. UGA continued to provide healthy housing training for professionals as a training partner with the National Center for Healthy Housing, Georgia Southern University, and the Georgia Department of Public Health. The Georgia Radon Education program continues to provide radon education and test kits, reaching 6,500 adults and students through education programs and presentations. Another 50,000 were reached through print, broadcast and social media.

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

2. Brief description of the target audience

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

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

3. How was eXtension used?

There are currently 2 leaders and 29 active members associated Communities of Practice related to this planned program.

The membership in eXtension has continued to grow. Overall, there are currently 291 members in Communities of Practice in 62 approved communities (Up from 150 members in 59 communities in 2012). 190 questions were answered by in-state experts.

V(E). Planned Program (Outputs)

1. Standard output measures

2014	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Actual	2407	1905	150	330

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

Patent Applications Submitted

Year: 2014
 Actual: 0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2014	Extension	Research	Total
Actual	0	0	0

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Number of educational contact hours generated from formal educational programs presented to county extension agents by state faculty directly associated with this planned program.

Year	Actual
2014	711

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	Actual
2014	38128

Output #3

Output Measure

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

Year	Actual
2014	9

Output #4

Output Measure

- Number of invited presentations by faculty directly resulting from the success of this planned program.

Year	Actual
2014	10

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	Total number of consumers transitioning from rental to homeownership after participating in this program.
3	The percentage of participants who indicated a change in behavior, such as conserving water, purchasing Energy Star products or testing their well.
4	The number of participants who tested their homes for indoor air quality contaminants as a result of the educational programs conducted by county agents.
5	The percentage of participants who increased their knowledge of Indoor Air Quality issues as a result of the educational programs conducted by county agents.

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	Actual
2014	453583

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Faculty associated with federal funds also make indirect contacts to clientele. These federally funded positions provide further impact to the community through county faculty, staff and volunteers not receiving federal funds. This county level programming results in thousands of additional direct Extension contacts.

What has been done

County faculty have presented research based information directly to clientele through presentations, workshops, on-site visits, meetings, and other trainings.

Results

Extension extended lifelong learning to the people of Georgia through unbiased, research-based education.

4. Associated Knowledge Areas

KA Code	Knowledge Area
607	Consumer Economics

Outcome #2

1. Outcome Measures

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

2. Associated Institution Types

- 1862 Extension
- 1890 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2014	11

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

The goal of homeownership for many consumers is unattainable. Housing is an essential need for all persons. Not only is it a place for shelter, but it also has deep psychological and emotional influences on people providing them with a feeling of safety and security. Many consumers are overwhelmed by the home buying process.

What has been done

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

Results

Of the training participants, eleven used the information gained to transition from rental property to homeownership.

4. Associated Knowledge Areas

KA Code	Knowledge Area
607	Consumer Economics

Outcome #3

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.

Not Reporting on this Outcome Measure

Outcome #4

1. Outcome Measures

The number 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
- 1890 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2014	541

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

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

What has been done

Extension specialists trained agents to provide indoor air quality (IAQ) programming to target populations, teaching consumers how to reduce exposure to IAQ contaminants in home, work, and school environments. Specialists also developed curricula, print and online consumer resources, and program evaluations.

Results

A total of 541 training participants went on to test the homes for indoor air quality contaminants as a result of the educational programs conducted by county agents.

4. Associated Knowledge Areas

KA Code	Knowledge Area
607	Consumer Economics

Outcome #5

1. Outcome Measures

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

2. Associated Institution Types

- 1862 Extension
- 1890 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2014	70

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

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

What has been done

Extension specialists trained agents to provide indoor air quality (IAQ) programming to target populations, teaching consumers how to reduce exposure to IAQ contaminants in home, work, and school environments. Specialists also developed curricula, print and online consumer resources, and program evaluations.

Results

Seventy percent of participants reported an increase in knowledge of Indoor Air Quality issues as a result of the educational programs conducted by county agents.

4. Associated Knowledge Areas

KA Code	Knowledge Area
607	Consumer 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

- Slow recovery of the housing and labor markets continue to pose challenges for many Georgia households. Stagnant wages and rising prices have forced belt tightening across the state. Information Extension provides helps consumers to make informed personal financial management decisions in an increasingly sophisticated financial marketplace. Poor choices about whether to spend or save and when to use credit impede or halt progress toward long term goals and financial security.
- Difficulty in securing funding for establishing an entrepreneurship competition.
- There are various outcomes, negative and positive, that have occurred based upon the following external factors. Most notably economic trends has positively affected the outcome. Clients are more aware of the pitfalls of foreclosure, scams and predatory lending practices and therefore, attend the classes to educate themselves. Additionally, as employment improves so does the Housing market. Public policy changes most notably down payment assistance programs for first time homebuyers also helped to increase enrollment. Lastly, new federal regulations regarding lead and renovations also assisted in increasing enrollment for the classes.

V(I). Planned Program (Evaluation Studies)

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 ratings of the programs were excellent.
- Evaluations were administered and completed after each planned program. Results were positive.
- Agent knowledge was assessed by evaluation tools specific to the content provided at each training. 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. The 2-hour workshop helped participants to improve financial practices such as budgeting and paying bills on time. Middle school youth (4th through 8th grades) participating in a ten-part series of 30-minute lessons completed pre- and post-test assessments that showed the students were more likely to save for goals, give to charities, regret an impulse purchase, and understand the time value of money after the workshop series.

- Entrepreneurs assisted through program efforts are currently being tracked. The long term nature of establishing a new business will require ongoing contact over multiple years to establish a database of reportable results.
- At the beginning and at the conclusion of each homebuyer education series a test was administered 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. Additionally, participants indicated an increase in knowledge and felt empowered enough to make informed decisions.
- A Pre and post test was provided at each workshop. In general test scores increased for individual participants after the workshop was completed. Additionally, participants indicated they would use resources learned in the workshop to improve their personal finances.
- Follow-up contact is made with all individuals participating in individual counseling sessions, so some informal assessments were conducted when following up with households with positive responses.
- Distributed 851 radon test kits and received 541 test results (an average usage rate of 64%). High test results were received by 110 households. The majority of participants in radon education programs report an increase in knowledge after the class and the intent to test their home if they have not already done so.
- 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

Post workshop evaluation scores showed an overall increase in knowledge and satisfaction with the programs.
Radon testing kits were provided and participants indicated an intent to test their homes.

V(A). Planned Program (Summary)

Program # 5

1. Name of the Planned Program

Plant Production

Reporting on this 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
102	Soil, Plant, Water, Nutrient Relationships	20%	0%	20%	0%
204	Plant Product Quality and Utility (Preharvest)	35%	0%	35%	50%
205	Plant Management Systems	15%	0%	15%	50%
213	Weeds Affecting Plants	15%	0%	15%	0%
216	Integrated Pest Management Systems	15%	0%	15%	0%
	Total	100%	0%	100%	100%

V(C). Planned Program (Inputs)

1. Actual amount of FTE/SYs expended this Program

Year: 2014	Extension		Research	
	1862	1890	1862	1890
Plan	5.5	0.0	5.0	0.0
Actual Paid	22.5	0.0	26.5	2.0
Actual Volunteer	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
2608462	0	2819197	272388
1862 Matching	1890 Matching	1862 Matching	1890 Matching
2608462	0	2819197	272388
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

Plant Production research and studies were conducted. County, regional, state, and multistate meetings, trainings, and workshops were held. Field days, on-site visits, tours, and hands-on sessions took place. Diagnostic services were provided.

Research findings and information were shared via bulletins, newsletters, eXtension, lay-person articles, industry publications, peer-reviewed journals, scientific proceedings, state and national conferences, broadcast media, websites, expos, and trade magazines.

Native plant propagation

Plants have been supplied to private, state, and federal agencies for reintroduction projects.

Vegetables

Research is currently underway assessing rotations for organic winter vegetable production.

One project provided information on how plastic mulches affect tomato, bell pepper, and onion yield and quality.

Research continued on the design productive and sustainable vegetable production systems by using plasticulture techniques.

Research continued on developing integrated approaches for managing vegetable diseases. An emphasis was on developing management approaches integrating foliar applied products and soil treatments applied through drip tube.

The commercial vegetable pest control handbook for Georgia was updated and published.

Fruits and berries

Various fungicides were evaluated.

Research continued in the area of mechanical harvesting efficiency in blueberries and nematicidal compounds.

A new nematicidal compound was released this year. Additional studies were begun to examine the efficacy of a new nematicidal compound on blueberry.

Peanuts

Several on farm trials were conducted this year which demonstrated the benefits of new cultivars, night spraying fungicides, and the peanut RX program for reducing fungicide inputs.

Research was conducted to determine the response of new cultivars and breeding lines to management tools such as optimum planting date, row pattern, tillage system, insecticide treatment.

Pecans

Research continued on pecan selections for nut quality, tree vigor, tree productivity and pest resistance. A telephone "hotline" is updated weekly to provide real time information to growers who can call in anytime.

Pecan scab fungicide resistance monitoring program was conducted. More than 150 leaf scab samples were tested for sensitivity to six different fungicides.

A new Southeastern Pecan Growers Handbook was produced.

Row crops

Information developed in these studies has been incorporated into crop production guides.

A substantial amount of sequence has been generated from the chromosome associated with apomixis. Other candidate genes are being examined.

Medicinal, nutraceutical and biofuel plant species were studied.

Forestry

Research and extension programs in insect pest management were carried out. Researchers increased invasive species work.

The LIFE program conducted resource clinics and 2 publications on estate planning were distributed.

Exhibits were also present in seven black belt counties.

2. Brief description of the target audience

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

3. How was eXtension used?

There are currently 13 leaders and 62 active members associated Communities of Practice related to this planned program.

The membership in eXtension has continued to grow. Overall, there are currently 291 members in Communities of Practice in 62 approved communities (Up from 150 members in 59 communities in 2012). 190 questions were answered by in-state experts.

V(E). Planned Program (Outputs)

1. Standard output measures

2014	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Actual	2418	1905	150	330

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

Patent Applications Submitted

Year: 2014

Actual: 8

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2014	Extension	Research	Total
Actual	62	103	165

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	Actual
2014	0

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	Actual
2014	0

Output #3

Output Measure

- Number of invited presentations by faculty directly resulting from the success of this planned program.

Year	Actual
2014	69

Output #4

Output Measure

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

Year	Actual
2014	58

Output #5

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	Actual
2014	1010

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.

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 Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2014	719901

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Faculty associated with federal funds also make indirect contacts to clientele. These federally funded positions provide further impact to the community through county faculty, staff and volunteers not receiving federal funds. This county level programming results in thousands of additional direct Extension contacts.

What has been done

County faculty have presented research based information directly to clientele through presentations, workshops, on-site visits, meetings, and other trainings.

Results

Extension extended lifelong learning to the people of Georgia through unbiased, research-based education.

4. Associated Knowledge Areas

KA Code	Knowledge Area
102	Soil, Plant, Water, Nutrient Relationships
204	Plant Product Quality and Utility (Preharvest)
205	Plant Management Systems
213	Weeds Affecting Plants

V(H). Planned Program (External Factors)

External factors which affected outcomes

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

Brief Explanation

- Rainfall was sometimes low, and as a result, disease was often decreased substantially.
- In vegetable production research, field work is always subject to the effects of natural disasters such as weather extremes, pests, and diseases. The outcomes of the program may also be influenced by the economy, which may affect the budget for research in the CAES and level of technical and clerical support. The economy and public policy may also determine the availability of extramural funding.
- Continued reductions in state funding have limited the number of research trials installed.
- Farm Bill past mid-year still effecting targeted audience; rebounding housing market still affecting prices as well as financial institutions lending practices; weather is still a constant factor.

V(I). Planned Program (Evaluation Studies)

Evaluation Results

- Weekly meetings of the Plant Conservation Program staff of the State Botanical Garden have provided the venue for evaluating the program. Changes to the program were made based evaluation results.
- Blueberry producers now have a substantive management recommendation for control of Exobasidium, an emerging disease. Yields were increased and consumer complaints were minimized as a result of this research.
- Growers are adapting reduced fungicide programs and using Peanut RX programs and night sprays.
- 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.

- 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.
- Reduced sensitivity of the yellow aphid complex to the most commonly used insecticide, imidacloprid, was widely reported and documented in most pecan growing areas.
- Growth regulators that induce fruit abscission in blueberry have been identified. The physiology of fruit detachment and the point of fruit detachment are better understood in blueberry. Specific changes in the cell wall glycome associated with the abscission induced by these growth regulators have been identified. Multiple genes associated with the process of abscission have been identified. The site of action of the growth regulators have been defined. A portable mechanical shaker has been developed.
- The level of disease suppression in downy mildew and powdery mildew of cucurbits obtained through the use of fungicide programs is excellent at this time. The amount of disease suppression of bacterial leaf spot of pepper and Botrytis neck rot of onion is not adequate.
- We have developed molecular tools to isolate and characterize PR genes and resistance gene homologues (RHGs). We have characterized these genes to better understand defense mechanisms.
- County agents have indicated grower satisfaction with current educational programs and have requested similar programs for 2015.
- Workshop participants evaluated on the usefulness of the LIFE session topics such as timber management, estate planning, wildlife, and USDA cost-share programs in which the finding indicate the LIFE program is very beneficial to its targeted audience. Most knowledge gain in most cases was greater than 40 percent.
- We have developed techniques based on the inoculation of female watermelon blossoms (stigmas or ovaries), to generate A.
- 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 recent survey shows that the percentage of pecan growers in Georgia now utilizing clover to supplement their trees' nitrogen needs has risen by over 40% over the last three years.

Key Items of Evaluation

Workshops were well received and showed an overall increase in knowledge and satisfaction with the programs.
Analysis and techniques taught improved product quality and value.
New breeds were developed.

V(A). Planned Program (Summary)

Program # 6

1. Name of the Planned Program

Sustainability, Conservation & the Environment

Reporting on this 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
131	Alternative Uses of Land	5%	0%	10%	10%
133	Pollution Prevention and Mitigation	25%	50%	30%	30%
401	Structures, Facilities, and General Purpose Farm Supplies	10%	0%	0%	0%
403	Waste Disposal, Recycling, and Reuse	25%	0%	30%	30%
605	Natural Resource and Environmental Economics	20%	50%	30%	20%
610	Domestic Policy Analysis	15%	0%	0%	10%
Total		100%	100%	100%	100%

V(C). Planned Program (Inputs)

1. Actual amount of FTE/SYs expended this Program

Year: 2014	Extension		Research	
	1862	1890	1862	1890
Plan	15.5	0.0	7.0	0.0
Actual Paid	16.7	0.2	7.5	4.0
Actual Volunteer	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
1936058	71839	797886	544775
1862 Matching	1890 Matching	1862 Matching	1890 Matching
1936058	71839	797886	544775
1862 All Other	1890 All Other	1862 All Other	1890 All Other
0	0	0	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

Research was conducted. County, regional, state, and multistate meetings, trainings, and workshops were held. Field days, on-site visits, tours, and hands-on sessions took place. Diagnostic services were provided.

Research findings were shared via bulletins, newsletters, eXtension, lay-person articles, industry publications, peer-reviewed journals, scientific proceedings, state and national conferences, broadcast media, websites, and expos.

The AWARE program focuses on efforts in animal waste management and pollution prevention for animal agriculture. It provided assistance to the GA Dept of Ag and EPD also continue in developing and implementing regulations.

A comprehensive validation of ammonia emissions from broiler houses was completed. The study demonstrated that emissions could be measured accurately, simply and inexpensively compared to previous methods.

Research in vector biology and control of several vector species is ongoing in Georgia.

Assessment tools were developed. Research continued on water use in agricultural production, and the management of water for ecosystem services in the midst of volatile weather conditions. Regulations continued to be examined. The economic relationships between biofuels, oil and gasoline prices were explored.

Information on social capital, education, and poverty was collected, analyzed and disseminated. The Market Maker website continued to be a success. Timely information and analyses were provided to policy makers, industry and the public on the evolving state and future prospects of GA's economy.

Research continued on management and marketing issues related to agricultural production. Factors and issues affecting GA's food and agribusiness industry were analyzed and recommendations were provided at various levels.

Research and analysis was conducted and disseminated on production and management alternatives in a variety of crop and cattle enterprises. Improved management strategies and practices were recommended to GA producers.

Educational programs were conducted on nutrient management planning (NMP).

The water conservation in greenhouses program provided seminars across Georgia and nearby states. Graduate students presented at national conferences. Our USDA SCRI Grant work will continue through 2014, as will our related field demonstrations and our graduate student research projects in water conservation.

Research was conducted to quantify water needs of various greenhouse and nursery crops. We have quantified water needs of nursery crops and developed mathematical models of how these water needs vary based on weather conditions.

Workshops on poultry housing, energy conservation, and ventilation were attended by over 100 participants from all over GA, the US, and the world and by over 100 online webinars. Specialists provided over 80 energy audits for individual farms to help producers decide what improvements are most cost effective and also assist them in getting grants.

Research continued in the areas of Biomicrometeorology, Molecular Environmental Science, Nutrient Management, Remediation, Soil Biology and Biochemistry, Soil Pedology, Waste Management, and Water Resources.

2. Brief description of the target audience

Farmers, agribusiness, community leaders, entrepreneurs

Small, minority, and limited resource landowners and farmers

3. How was eXtension used?

There are currently 1 leader and 54 active members associated Communities of Practice related to this planned program.

The membership in eXtension has continued to grow. Overall, there are currently 291 members in Communities of Practice in 62 approved communities (Up from 150 members in 59 communities in 2012). 190 questions were answered by in-state experts.

V(E). Planned Program (Outputs)

1. Standard output measures

2014	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Actual	1984	194204	119	2

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

Patent Applications Submitted

Year: 2014
 Actual: 0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2014	Extension	Research	Total
Actual	88	131	219

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

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

Year	Actual
2014	117

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	Actual
2014	138

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	Actual
2014	2488

Output #4

Output Measure

- Number of invited presentations by faculty directly resulting from the success of this planned program.

Year	Actual
2014	195

Output #5

Output Measure

- Number of site visits to landowners/farmers
Not reporting on this Output for this Annual Report

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

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

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	Actual
2014	484364

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Faculty associated with federal funds also make indirect contacts to clientele. These federally funded positions provide further impact to the community through county faculty, staff and volunteers not receiving federal funds. This county level programming results in thousands of additional direct Extension contacts.

What has been done

County faculty have presented research based information directly to clientele through presentations, workshops, on-site visits, meetings, and other trainings.

Results

Extension extended lifelong learning to the people of Georgia through unbiased, research-based education.

4. Associated Knowledge Areas

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

Outcome #2

1. Outcome Measures

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

2. Associated Institution Types

- 1890 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2014	300

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Of Georgia's 24.7 million acres in forestland, 17.96 million acres are owned by private non-industrial landowners. Georgia's forest resource creates a 12.7 billion dollar direct economic impact in the state. Several research studies have documented that small, minority and limited resource landowners and farmers are often not aware of and/or been denied access to opportunities that will aide in sustaining and/or increasing their land productivity in the area of forest management.

What has been done

The LIFE program specialist provided one-on-one education for small, minority, and limited resource landowners and farmers.

Results

A total of 300 site visits were made to small, minority, and limited resource landowners and farmers.

4. Associated Knowledge Areas

KA Code	Knowledge Area
605	Natural Resource and Environmental Economics

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

Brief Explanation

Although the drought conditions have lessened, weather variability continued to affect many producers in Georgia and public programs such as crop insurance are still being impacted, making it necessary to respond with improved risk management strategies. Also changes in public policy, particularly trade and farm bill legislation, needed responses. Volatile output and input prices had to be addressed as well.

V(I). Planned Program (Evaluation Studies)

Evaluation Results

- A major validation of ammonia emissions from broiler houses was completed. A significant equipment grant was received by the UGA ammonia emission team.
- Survey data revealed/demonstrated need for training in sustainable agricultural practices among agents and producers.
- Evaluation forms were provided to participants in training programs. Evaluation results are considered and recommendations incorporated as future program activities are developed.
- Irrigation management practices and the effective valuation of various non-market goods and services continue to be observed to see if the recommendations made are accurate and being adopted.
- Researchers continue to observe and monitor the status of the economic development issues they are working on.
- "Case studies" were conducted for particular agribusiness operations and ventures. Extension personnel observed agribusiness performance as they worked one-on-one with growers. Financial success in this sector continues to be a challenge, particularly at the farm production level. Risk management tools and marketing information are key to increasing the chances of success.
- Extension specialists visit producers during and after programs to see if they are helping improve in their outcomes. The farm records management program is another example of post program evaluation.

- The Georgia economy continues to improve.
- 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 energy efficiency strategies that have been recommended.

Key Items of Evaluation

Workshops and inservice trainings were well received. Post session results indicated an overall increase in knowledge and intent to change behavior.

Site visits were reported to have a positive impact on growers.
Tools and marketing information provided was reported as being helpful to clientele.

V(A). Planned Program (Summary)

Program # 7

1. Name of the Planned Program

Urban Agriculture

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

V(C). Planned Program (Inputs)

1. Actual amount of FTE/SYs expended this Program

Year: 2014	Extension		Research	
	1862	1890	1862	1890
Plan	3.0	0.0	4.0	0.0
Actual Paid	2.0	0.0	4.0	0.0

Actual Volunteer	0.0	0.0	0.0	0.0
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2. Actual dollars expended in this Program (includes Carryover Funds from previous years)

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
231863	0	425539	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
231863	0	425539	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
0	0	0	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

Research was conducted. County, regional, state, and multistate meetings, trainings, and workshops were held. Field days, on-site visits, tours, and hands-on sessions took place. Diagnostic services were provided.

Research findings were shared via bulletins, newsletters, eXtension, lay-person articles, industry publications, peer-reviewed journals, scientific proceedings, state and national conferences, broadcast media, websites, and expos.

Research continued to provide better management options for foliar diseases of ornamentals.

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.

Within the turfgrass disease management program an active applied research was implemented to address new or recurring turfgrass disease problems or knowledge voids. Sixteen site visits as requested by county agents and Georgia stakeholders were performed. It is not uncommon to answer 4-5 calls a day on diagnosis, control of turfgrass diseases. 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, full day workshops at the Golf Course Superintendent Association of America, Bilingual publications; safety training workshops. In 2014, twelve meetings as liaison or/and advisory expert were given to industry, commodity and government entities.

In the Significant Trees of Georgia program, 5 trees were visited and documented.

Model woody plant species were identified and chemically mutagenized populations of these plants will be developed. DNA sequence data from genes of interest was obtained. Genetic screening for induced mutations in specific genes was conducted. Plants identified with mutations in specific genes were selected for field testing and breeding. Genes of the FT/TFL1 family of peach (*Prunus persica*) were identified and compared with family members of other Rosaceaea species.

Fungicide efficacy trials were conducted that aided in product labeling. Two books on integrated IPM of trees and shrubs in southeastern ornamental nurseries were written and published. Fungicide efficacy table was published. Extension Plant Pathology Update, a monthly newsletter was developed and distributed to provide information on disease clinic diagnoses and current disease problems. Numerous presentations were given to update green industry professionals on new diseases and disease management practices. Fungicide resistance screening was conducted and is on-going.

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

2. Brief description of the target audience

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

3. How was eXtension used?

There are currently 4 active members associated Communities of Practice related to this planned program.

The membership in eXtension has continued to grow. Overall, there are currently 291 members in Communities of Practice in 62 approved communities (Up from 150 members in 59 communities in 2012). 190 questions were answered by in-state experts.

V(E). Planned Program (Outputs)

1. Standard output measures

2014	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Actual	4164	177785	2	0

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

Patent Applications Submitted

Year: 2014
 Actual: 0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2014	Extension	Research	Total
Actual	9	3	12

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	Actual
2014	72

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	Actual
2014	53

Output #3

Output Measure

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

Year	Actual
2014	57

Output #4

Output Measure

- Number of invited presentations by faculty directly resulting from the success of this planned program.

Year	Actual
2014	21

Output #5

Output Measure

- Number of research trials conducted
Not reporting on this Output for this Annual Report

Output #6

Output Measure

- Number of disease management recommendations based on disease samples processed

Year	Actual
2014	8081

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 result of the work of faculty receiving federal funds within this planned program.
2	Pre and post tests, email follow-up evaluation

Outcome #1

1. Outcome 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
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2014	632910

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Faculty associated with federal funds also make indirect contacts to clientele. These federally funded positions provide further impact to the community through county faculty, staff and volunteers not receiving federal funds. This county level programming results in thousands of additional direct Extension contacts.

What has been done

County faculty have presented research based information directly to clientele through presentations, workshops, on-site visits, meetings, and other trainings.

Results

Extension extended lifelong learning to the people of Georgia through unbiased, research-based education.

4. Associated Knowledge Areas

KA Code	Knowledge Area
102	Soil, Plant, Water, Nutrient Relationships
111	Conservation and Efficient Use of Water
124	Urban Forestry
202	Plant Genetic Resources
206	Basic Plant Biology
211	Insects, Mites, and Other Arthropods Affecting Plants

212	Diseases and Nematodes Affecting Plants
213	Weeds Affecting Plants
216	Integrated Pest Management Systems
404	Instrumentation and Control Systems
405	Drainage and Irrigation Systems and Facilities
601	Economics of Agricultural Production and Farm Management
602	Business Management, Finance, and Taxation
605	Natural Resource and Environmental Economics
609	Economic Theory and Methods
806	Youth Development

Outcome #2

1. Outcome Measures

Pre and post tests, email follow-up evaluation

Not Reporting on this Outcome Measure

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

Severe changes in weather patterns can change diseases dynamics therefore preventing or diverging emphasis on certain disease. Government regulations on certain fungicides can hamper the applicability of those in disease control. Public perception regarding the use of environmentally friendly chemical controls strategies as well as the potential turfgrass industry change in research and direction.

In early 2014 severe low temperature records and ice storms had a dramatic impact on turfgrass green up and increasing disease activity in warm season grasses. 2014 was also the warmest year in record inciting disease outbreaks in cool season grasses. Changes and additions of fungicides provided added both challenges and new ways to combat disease. However, the program objectives for the year were accomplished and surpassed predictions. We have been successful in attaining a variety of extramural funds for travel and other research and extension activities.

V(I). Planned Program (Evaluation Studies)

Evaluation Results

- Isolated studies have continued as planned.
- Evaluation studies were conducted by comparing the laboratory estimates of the cold hardiness of woody ornamentals to their actual performance in the field. Results are promising.
- The results and activities of the program provided 42 new outlets of information and research findings published in several venues. The latest information and research results on turfgrass disease have been disseminated at 29 international, national, state and local meeting and conferences. Additionally, under this program new and/or improved turfgrass disease control strategies have been developed. Research and extension expertise and advice from this program are commonly sought by industry, stakeholders and government entities. This program has secure substantial extramural funding to perform and expand activities.
- Members of the FT/TFL1 family were identified in the peach genome database. These genes were compared with family members from other Rosaceae species. Results indicated that peach could serve as a model for genes regulating flowering.
- Ornamental plant producers and landscapers remain interested in new product chemistry, identification of new diseases, and improved disease management practices.

Key Items of Evaluation

Post workshop evaluations indicated an overall increase in knowledge and satisfaction with the programs.

New plant genes were identified.

Information disseminated on the local, state, national, and international levels was well received.

V(A). Planned Program (Summary)

Program # 8

1. Name of the Planned Program

Youth & Family Development

Reporting on this 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
134	Outdoor Recreation	5%	0%	0%	0%
135	Aquatic and Terrestrial Wildlife	2%	0%	0%	0%
136	Conservation of Biological Diversity	2%	0%	0%	0%
206	Basic Plant Biology	2%	0%	0%	0%
214	Vertebrates, Mollusks, and Other Pests Affecting Plants	2%	0%	0%	0%
307	Animal Management Systems	2%	0%	0%	0%
315	Animal Welfare/Well-Being and Protection	5%	0%	0%	0%
608	Community Resource Planning and Development	5%	20%	0%	0%
802	Human Development and Family Well-Being	35%	20%	0%	0%
806	Youth Development	40%	60%	0%	0%
	Total	100%	100%	0%	0%

V(C). Planned Program (Inputs)

1. Actual amount of FTE/SYs expended this Program

Year: 2014	Extension		Research	
	1862	1890	1862	1890
Plan	3.0	1.0	0.0	0.0
Actual Paid	6.4	3.0	0.0	0.0
Actual Volunteer	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
741963	1077589	0	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
741963	1077589	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

We disseminated parenting publications, information on nutrition and physical activity in early childhood, information on healthy relationships, information on traffic injury prevention, information on grandparents raising grandchildren, and information on early brain development through print and web sources. We provided information through the Just in Time Parenting and eXtension Alliance for Better Child Care communities of practice. We provided parenting and child care provider education classes on a variety of topics to Extension agents, parents, child care providers, youth, and couples. We provided news releases, blog posts and other social media, and related information to be disseminated by agents to print, online, and broadcast media outlets.

The family life program offered several programs on parenting skills. The programs provided information to caregivers 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 GA 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. The 4-H Junior and Senior Project Achievement Program engaged youth community service and engagement. The 4-H Ambassador Program trained youth and adult partners in Health Rocks, Operation Military Kids, Science, Engineering & Technology and Global Awareness. The Ambassadors have completed 1 year of activities sharing information learned from training. Additional six youth were selected to attend National 4-H Conference and the leadership in Action Program was completed. Leadership In Action provided a framework for engaging youth in identifying issues facing their communities and developing solutions.

GA 4-H EE was offered at all five 4-H Centers and Tidelands Nature Center as well as the listed additional offerings. Additionally, Project WET, Wild, and Learning Tree educator trainings were offered to Extension professionals as curriculum resources. The GA 4-H robotics program continues to provide engineering opportunities for youth across GA.

FVSU 4-H staff facilitated 12 4-H Science Meetings Sessions, 12 4-H Leadership/Citizenship Meetings Sessions, 12 Healthy Living Meeting Sessions and 12 4-H Entrepreneurship/Workforce preparation Meetings Sessions. The 4-H staff also facilitated a 4-H Summer Day Camp for 3 weeks on campus. In the area of Junior Livestock programs, training and materials were developed to teach youth about projects. Youth fed and managed livestock shows were held for cattle, swine, sheep and goats. Studies were conducted to determine the relationship between weight, age, average daily gains (ADG), and placing in a commercial dairy heifer's performance as well as determine if these heifers are being grown according to industry guidelines.

State Horse Show, Hippology, Judging Contest, Horse School, and Quiz Bowl were all offered.

2. Brief description of the target audience

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

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

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

3. How was eXtension used?

There are currently 2 leaders and 60 active members associated Communities of Practice related to this planned program.

The membership in eXtension has continued to grow. Overall, there are currently 291 members in Communities of Practice in 62 approved communities (Up from 150 members in 59 communities in 2012). 190 questions were answered by in-state experts.

V(E). Planned Program (Outputs)

1. Standard output measures

2014	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Actual	13664	35640	57650	12500

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

Patent Applications Submitted

Year: 2014
 Actual: 0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2014	Extension	Research	Total
Actual	11	0	11

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	Actual
2014	660

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	Actual
2014	16890

Output #3

Output Measure

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

Year	Actual
2014	36

Output #4

Output Measure

- Number of invited presentations by faculty directly resulting from the success of this planned program.

Year	Actual
2014	20

Output #5

Output Measure

- Number of Leadership, Entrepreneurship, and Science Meeting sessions coordinated

Year	Actual
2014	5181

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

Outcome #1

1. Outcome 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	Actual
2014	6026206

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Faculty associated with federal funds also make indirect contacts to clientele. These federally funded positions provide further impact to the community through county faculty, staff and volunteers not receiving federal funds. This county level programming results in thousands of additional direct Extension contacts.

What has been done

County faculty have presented research based information directly to clientele through presentations, workshops, on-site visits, meetings, and other trainings.

Results

Extension extended lifelong learning to the people of Georgia through unbiased, research-based education.

4. Associated Knowledge Areas

KA Code	Knowledge Area
134	Outdoor Recreation
135	Aquatic and Terrestrial Wildlife
136	Conservation of Biological Diversity
206	Basic Plant Biology
214	Vertebrates, Mollusks, and Other Pests Affecting Plants
307	Animal Management Systems

315	Animal Welfare/Well-Being and Protection
608	Community Resource Planning and Development
802	Human Development and Family Well-Being
806	Youth Development

Outcome #2

1. Outcome Measures

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

2. Associated Institution Types

- 1890 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Actual
2014	12543

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

It is critical to create and implement youth programs that meet the needs and challenge the strengths of all youth that live in Georgia and throughout America.

What has been done

FVSU 4-H youth programs were offered across the state.

Results

Of youth participants, 12,543 enhanced decision making skills and developed positive leadership skills, increased their knowledge of entrepreneurship education, and increased their knowledge of science education.

4. Associated Knowledge Areas

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

V(H). Planned Program (External Factors)

External factors which affected outcomes

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

Brief Explanation

- The Georgia Department of Early Care and Learning, which handles child care licensing, regulation, quality improvement, and federal Child Care and Development Block Grant funds, has begun a new Quality Rated initiative that provides free training and support for child care providers enrolled, which has resulted in a temporary reduction in the demand for community based child care training provided by Extension (and other sources). Bright from the Start also continues to place highest priority on funds for pre K, which leaves fewer funds available to fund Extension and other training efforts.
- Since one of these programs 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.
- Since one of these programs involves horses, a recreation animal whose ownership, use, and maintenance is in direct correlation to the economy, any changes in the economy and population can affect individual components of the program.
- Presently, weekly or monthly 4 H program activities do not cost youth participants as long as 1890 Extension funds or external grant funding are available to provide funding for these programs. However; the American Economy is unpredictable, and Extension budgets have been reduced significantly. These economic challenges or external factors have affected the outcome of 4 H Programming activities.
- Due to a lack of funding, UGA/Georgia 4 H will no longer coordinate a Georgia Youth Summit. However, Georgia 4 H coordinates other programs which engage youth in civic engagement activities.
- Economic situations effected schools accessibility to the program as does ice storms/weather events that cause school cancellations.
- 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. New policy on unemployment benefits and healthcare may have affected the outcome.

V(I). Planned Program (Evaluation Studies)

Evaluation Results

- Agent knowledge was assessed by evaluation tools specific to the content provided. Evaluations assessed knowledge before and after training, either through pre-post tests or a retrospective measure of perceived knowledge change. Intent to change behavior was also measured at the end of educational programs. Agents assessed changes in parents' and child care providers' knowledge and intent to change behavior through pre-post evaluations or retrospective evaluations designed for the content of specific programs.
- A record of numbers of youth were involved in projects.
- Participants felt the programs were worthwhile and they learned from them. They felt the programs were suitable for the fee involved, and they would participate again. Life skills were also enhanced.
- Based on national 4-H common measures survey results post program evaluations and cooperative extension post evaluations of each respected area there were increases in youth participants acquiring knowledge in the following areas:
Healthy Living Science education: 75% of youth participants increased their knowledge of science technology,
Leadership: 75% of youth participants acquired strategies to enhance their ability to make good decisions, and
Entrepreneurship: 75% of youth participants learned information that taught them how to start their own business.
- Participants in 4-H Junior and Senior Project Achievement will complete post program surveys designed to measure increase in/demonstration of knowledge and increased community/civic engagement. The leadership in action participants will include an evaluation component in their submission summary considering the effects of the activity on their leadership growth.
- For the before and after questions that were asked many of the participants were able to verbally identify 2/3 of the workshop goals.

Key Items of Evaluation

Workshops and inservice trainings were well received. Post session evaluation scores indicated an increase in knowledge and intent to change behavior. Youth reported new decision making skills and planning.

VI. National Outcomes and Indicators

1. NIFA Selected Outcomes and Indicators

Childhood Obesity (Outcome 1, Indicator 1.c)	
0	Number of children and youth who reported eating more of healthy foods.
Climate Change (Outcome 1, Indicator 4)	
0	Number of new crop varieties, animal breeds, and genotypes with climate adaptive traits.
Global Food Security and Hunger (Outcome 1, Indicator 4.a)	
0	Number of participants adopting best practices and technologies resulting in increased yield, reduced inputs, increased efficiency, increased economic return, and/or conservation of resources.
Global Food Security and Hunger (Outcome 2, Indicator 1)	
0	Number of new or improved innovations developed for food enterprises.
Food Safety (Outcome 1, Indicator 1)	
0	Number of viable technologies developed or modified for the detection and
Sustainable Energy (Outcome 3, Indicator 2)	
0	Number of farmers who adopted a dedicated bioenergy crop
Sustainable Energy (Outcome 3, Indicator 4)	
0	Tons of feedstocks delivered.