

# 2015 Tuskegee University and Auburn University and Alabama A&M University Combined Research and Extension Annual Report of Accomplishments and Results

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## I. Report Overview

### 1. Executive Summary

#### Overview

The annual report represents the combined efforts of the three land-grant institutions in the state of Alabama; Alabama A&M University (AAMU), Auburn University (AU), and Tuskegee University (TU). The Universities...

AAMU is an 1890 land-grant institution with a comprehensive university Carnegie classification, functioning in the areas of teaching, research, and Extension including public service. AAMU is a doctoral degree granting institution with strong graduate programs in the science, technology, engineering, and mathematics (STEM) disciplines. AU is an 1862 land-grant institution with high research activity; comprehensive doctoral programs with medical/veterinary Carnegie classification. AU's mission is defined by its land-grant traditions of service and access. The TU mission, historically and today, together with specific acts of the United States Congress and the state of Alabama defines Tuskegee as an 1890 land-grant university with a Master's degrees Carnegie classification. Through integrative teaching/learning, research/discovery, and Extension/engagement programs TU addresses contemporary societal problems as opportunities to advance individuals, families, and communities.

#### Research and Cooperative Extension...

Research at each Alabama land-grant institution (LGI) has distinct programs based on clientele needs. Each component of the Alabama Agricultural Research Program works closely and cooperatively to enhance partnerships among the universities in all areas of Research and Extension; with other universities in the region, nationally, and internationally; and with state and federal laboratories and agencies. Alabama's three land-grant universities have played key roles in the development of agricultural enterprises in Alabama. The agricultural research programs of these universities have formed a partnership, the Alabama Agricultural Land-Grant Alliance (AALGA), to better address critical issues in food, agriculture, rural sustainability, environment, bioenergy, and natural resources in the state, region, and nation through multidisciplinary, multi-institutional, science-based teams that focus on the opportunities and the challenges facing farmers, consumers, and agribusinesses. AALGA also seeks to provide quality education that prepares professionals for career opportunities in food, agriculture, environment, and natural resources. Research programs at each of our institutions are closely linked to Extension programs, which seek the largest possible positive social, economic, and environmental impact. AAMU and AU provide Extension educational outreach as a unified Alabama Cooperative Extension System (ACES). The AAMU-funded portion of the System focuses its resources on serving urban and nontraditional clientele; the AU-funded portion of the System focuses its resources on serving rural and traditional clientele. However, given that the boundaries between rural and urban, and between nontraditional and traditional, are vague, the ACES employs a highly collaborative program development and delivery process that allows for the integrative and collaborative application of the resources from both AAMU and AU to serve and meet the needs of all Alabamians in all 67 counties within the state. Agents from the two institutions are jointly located in county Extension offices and function as a county Extension teams. Tuskegee University Cooperative Extension (TUCE) in partnership with the Evans Allen Research Program, Carver Integrative Sustainability Center (USDA 1890 Center of Excellence) and other research, teaching and outreach units, carries out a comprehensive Extension Plan of Work (POW). TUCE continues to focus its major efforts in Alabama Black Belt and adjacent counties, but has programs in other

counties, such as in Marshall County with the Cherokee Tribe of North East Alabama (CTNEAL) and other targeted Native and Hispanic populations. Many TUCE agents share the same facility as ACES agents assigned to that county and cooperate on Extension programs of mutual interest.

The world is facing major challenges with food, energy, environmental sustainability, natural resources, climate change, and economic development in all sectors, as well as, human health and well-being and related issues. In order to address issues related to these major local, national and international challenges, integrative and collaborative Research and Extension programs have been designed to address most of these challenges. The Alabama Land-Grant Institutions are cognizant of the necessity to continue to address the five National Institute of Food and Agriculture (NIFA) priorities. Indeed, those programs are priorities for Alabama residents as well. The Combined Alabama A&M University, Auburn University, and Tuskegee University Research and Extension POW is founded on the following planned programs: 1) Global Food Security and Hunger, 2) Food System and Food Safety, 3) Natural Resources Conservation and Management, 4) Environmental Sustainability and Climate Change, 5) Human Nutrition, Well-being, Health and Obesity, 6) Community Development, 7) Family, Home and 4-H and Youth Development, and 8) Sustainable Energy.

The annual report for FY 2015 is fully descriptive of the program activities from the state's Plan Of Work. The planned program areas are fully described in the remainder of this annual report. What follows is a brief summary of some of the program activities. The Global Food Security and Hunger program addressed issues related to sustainability of small-scale farmers and rural communities. More than 2000 contacts were made with beef and goat producers at field days, workshops, and seminars. Efforts have resulted in farmers improving beef cattle breeding stock, reducing annual beef cattle production cost, and significant decreases in goat production costs and successful loan applications were submitted by the targeted limited resource, minority, and underserved farmers that totaled over \$1.2 million, thus increasing access to USDA programs for those stakeholders. Further, footpad irritation posed economic and welfare problems for poultry farmers. Work with the farmers to improve housing conditions through improved litter quality resulted in a yearly payback of \$658, 500. In the area of Families and 4-H Youth Development financial literacy is a major issue. Eleven thousand one hundred forty six (11,146) young people between the ages of 13 through 20 were introduced to fundamental skills needed to manage in real life situations. Also, the 4-H Science, 4-H-NSDY provided interactive provided year round activities to introduce and provide advance activities in science and engineering. Over 3500 youth ages 8 through 16 participated in after school programs, workshops and summer camps. The Natural Resource Conservation and Management, Environmental Sustainability, and Climate program area sought to enhance the quality of drinking water in rural areas and small communities and increase the awareness of sustainable forest resource management, and assess climate change variability in the Alabama River Basin. This is a small sampling of program activities and impacts for this annual report. The full report details activities and impacts for each of the program areas.

### Total Actual Amount of professional FTEs/SYs for this State

Year: 2015	Extension		Research	
	1862	1890	1862	1890
Plan	371.0	65.5	85.0	68.0
Actual	364.0	56.5	326.0	44.3

## II. Merit Review Process

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

- External Non-University Panel
- Combined External and Internal University Panel

## 2. Brief Explanation

### Merit Review Process

The 5-phase merit process is designed to obtain clarity and feedback at each phase. As a result, more focused extension and research goals, outputs, and outcomes were established. The process also identified opportunities for conversations to develop integrative approaches to Extension programs and research projects. The merit review in Alabama will continue as a joint process involving extension and research administration and faculty at Alabama A&M University, Auburn University and Tuskegee University.

**Phase I** of the review process was conducted by extension and research program or project teams. Each team was responsible for reviewing data to ensure information provided for the report was accurate and represented critical needs identified by Alabama residents, stakeholders and partners.

**Phase II** of the process was conducted by the Assistant/Associate Directors, Deans/Associate Deans representing extension and research. Data was reviewed for: relevancy, competency within extension to address identified issues, opportunities for inclusion of multistate/integrated research and extension activities, and to ensure the existence of measurable impact and outcome indicators were aligned with established national standards.

**Phase III** of the review process was conducted by the extension and research administrative teams.

The following criteria are considered:

- Consistency with University missions
- The inclusion of approved programs and projects
- The adequacy of fiscal / human resource allocations needed for successful implementation of Included programs and projects,
- The capacity to offer educational services to a broad spectrum of Alabama residents, rural / urban, and across diverse demographic parameters,
- The degree to which the plan-of-work adequately reflects the consideration and inclusion of stakeholder and advisory input.

**Phase IV** of the process included University Extension administrators, Deans and Department Heads. Many system specialists are housed in Academic Departments. Therefore, it was appropriate to include them in the review and to allow comments and expectations of these educators and scientists within respective departments.

**Phase V** of the final review process, solicited input from various state-wide advisory councils to ensure citizens needs were addressed, to articulate extension program and research efforts and accomplishments, to expand collaboration and networking capabilities and to obtain statewide support for extension and research.

## 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
- Targeted invitation to selected individuals from general public

- Survey of traditional stakeholder groups
- Survey of traditional stakeholder individuals

**Brief explanation.**

The Alabama Cooperative Extension System and the Tuskegee University Cooperative Extension (ACES/TUCE) utilize a comprehensive grass-tops and grassroots needs assessment process. State-level constituent or consensus building groups, non-governmental agencies, community-based organizations, and governmental agencies are encouraged to participate in grass-tops needs assessment activities by inviting both traditional and non-traditional stakeholder groups. Individuals representing diverse socio-economic and racial groups, new client groups, networks, youth groups, and potential community partners are encouraged to participate in grassroots needs assessment activities by inviting both traditional and non-traditional stakeholder individuals. Media are used to announce and encourage individuals to participate in various activities.

In addition, college-level research advisory committees and advisory boards were established for Alabama A&M University, Auburn University, and Tuskegee University within The Alabama Agricultural Land Grant Alliance (AALGA) to actively seek stakeholders' input and provide advice to Deans and Research Directors. Throughout the year, research and extension faculty interface with 17 commodity groups and their clientele. Primary interaction occurs during semi-annual conferences organized by the Alabama Farmers Federation (ALFA) where faculty and administrators meet with commodity groups that hold forums to discuss issues, needs, and concerns. In addition to the ALFA groups, college and experiment station leadership, the department heads, and extension and research faculty work closely with several major commodity-based organizations outside of ALFA. They are the Alabama Cattlemen's Association, Alabama Poultry and Egg Association, Alabama Nursery and Landscape Association, Alabama Turfgrass Association, and the Black Belt Small Farmers Cooperative.

AALGA and its partners hosted "listening sessions" at key locations across the state. These sessions were advertised in varying ways to reach as broad an audience as possible and were open to the general public. Participants identified several strategic areas in need of additional resources and effort (i.e., research and extension). These areas are noted in this plan of work. Regular input is also received from stakeholders through commodity group leaders, from advisory boards, formal and informal surveys, focus groups, field days, conferences and through discussions and feedback from state leaders on agricultural boards. Most Extension faculty have research appointments, and they work closely with the commodity groups and the public in general to bring back their concerns and feedback.

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

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

- Use Advisory Committees
- Use Internal Focus Groups
- Use External Focus Groups
- Open Listening Sessions
- Needs Assessments
- Use Surveys

**Brief explanation.**

ACES/TUCE program leaders lead respective program teams, consisting of Extension specialists, agents, resource specialists, and farm management specialists to identify state-level constituent or

consensus building groups, non-governmental agencies, community-based organizations, and governmental agencies. Methods for identifying these groups included existing advisory committees and interagency directories.

Grassroots stakeholders are identified by Extension coordinators, agents, and resource specialists who lead community conversations in the state's 67 counties. Methods included existing advisory committees, 4-H youth councils, contacts with other agency partners, and staff knowledge of individuals representing diverse socio-economic and racial groups, new client groups, networks, youth groups, and potential community partners. A grassroots web-based survey is marketed in all 67 counties through the media and directly via ACES/TUCE webpages. Citizens are offered the opportunity to participate in the survey via public access computers at county Extension offices. For the hard-to-reach communities in the Black Belt and with new immigrant populations, special county and state advisory councils have been established for engagement to secure a diversity of stakeholder input. County 4-H youth councils are asked for direct input and feedback and are asked to solicit input and feedback from other peer youth groups.

Moreover, several groups such as advisory committees which encompass growers and consumer groups have been established. Surveys are conducted through various Alabama Agricultural Experiment Station (AAES) newsletters. Other means of seeking input from the general public are employed. Commodity groups are well organized through participation in the Alabama Farmers Federation and other such groups. Needs assessments are conducted through strategic planning, SWOT analysis, based on input from the agricultural industries and assessments from the faculty, their department heads, and college and experiment station leaderships.

## **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
- Meeting specifically with non-traditional individuals
- Survey of selected individuals from the general public

### **Brief explanation.**

A comprehensive approach to needs identification is utilized given the complexity of issues facing the citizens of Alabama. For ACES/TUCE, the comprehensive needs assessment begins with engagement of key external 'grass-tops' stakeholders to determine priority needs affecting Alabamians. Program leaders and their respective program teams conduct the grass-tops needs assessment by engaging groups through direct telephone contacts, focus groups, advisory committees, networking, or short surveys. Each stakeholder group is asked 1) what priority initiatives are included in their strategic plan or plan-of-work, 2) what issues do they envision affecting the economic and physical wellbeing of Alabamians across the state, 3) what priority needs of their clientele connect with ACES/TUCE's educational programming expertise, and 4) what linkages do they envision that would strengthen the working relationship with ACES/TUCE's educational programming. Results gleaned from the grass-tops needs assessment activities are summarized to determine what major themes emerge. The second major component of the comprehensive needs assessment involves engagement of 'grassroots' stakeholders. Extension coordinators, agents, and resource specialists organize grassroots community conversations to

confirm, prioritize, or regionalize the grass-tops needs assessment results. Objectives are to engage a cross section of citizens, including youth, to 1) discuss and understand the facts regarding significant issues facing the state and the opportunities for positive change and 2) dialogue about significant issues and the potential for local programs that acknowledge and address the current changes in the way citizens think, live, and function in their daily lives, families, communities and businesses. A companion grassroots survey is administered via the ACES/TUCE homepage. For limited-resource and low-asset communities, their representation on the special county and state advisory councils in the Black Belt and adjacent service areas are invited and given the opportunity to use regularly scheduled conferences in order to collect input and feedback. The conferences include: The Annual Farmers Conference, the Booker T. Washington Economic Summit, the Youth Empowerment Summit, and the Professional Agricultural Workers Conference. In addition, a number of stakeholder groups have previously been identified, and input is collected through regular meetings with discussions and feedback. For example, at Auburn, several commodity groups have committees to evaluate on-going research and new research proposals. Direct feedback to researchers and administration is through the projects that get funding and through discussion about new and emerging issues. At Tuskegee, input is also sought from workshops and special sessions during the Professional Agricultural Workers Conference and Farmers Conference that are organized annually. At Alabama Agricultural and Mechanical University, input is sought through workshops, 1890 Association of Research Directors, various departments, conferences and new research proposals. Influential industry leaders are consulted for their input and feedback.

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

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

#### **Brief explanation.**

Strategic program initiatives are identified from the comprehensive grass-tops and grassroots needs assessment activities. Program leaders collaborate on the development of a logic model for each strategic program initiative focusing on specific objectives, outputs, and outcomes that allow for application across various program areas. Each logic model includes an evaluation plan.

Program leaders assist their respective program teams, consisting of Extension specialists, agents, resource specialists, and farm management specialists, prepare a plan-of-work. Steps include: 1) to determine which strategic program initiatives fit with the team's capabilities and resources and to develop a programmatic response consistent with the objectives, outputs, and outcomes of the respective strategic program initiative logic model and 2) to complete the program team plan-of-work to include ongoing programs or special funded projects. A quarterly staff conference is used to process stakeholder input from the special and state advisory councils as a special effort on behalf of limited-resource and low-asset communities in the Black Belt.

Team plans-of-work are shared with Extension coordinators, agents, and resource specialists to align program alternatives and to make mutual decisions regarding programs, staff involved, dates, locations.

With respect to research, input from stakeholders is used to set program priorities and for identifying emerging issues relevant to agricultural activities. Their inputs are considered in the long term plan for hiring faculty members and staff members. Input concerning urgent and serious issues will be used to redirect research funds and used in the budget processes as well. Priorities identified from stakeholders' input are used as guides for solicitation of research grant applications. Annual Hatch and Evans Allen funded internal grants are selected competitively (awards are made based on merit

and relevance to the priority areas). Because of the small size of the funding, such research funding has to be considered as seed grants. Leveraging of additional funding is essential to carry the research priorities forward.

**Brief Explanation of what you learned from your Stakeholders**

The following Strategic Program Initiatives were established to focus programs and projects:  
 Health and Wellness across the Lifespan  
 Workforce Development  
 Safe and Secure Food Supply  
 Financial Literacy across the Lifespan  
 Sustainable Agricultural and Forestry Systems  
 Environmental Stewardship

**IV. Expenditure Summary**

**Institution Name:** Alabama A&M University

1. Total Actual Formula dollars Allocated (prepopulated from C-REEMS)			
Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
0	2165112	0	2680639

**Institution Name:** Auburn University

1. Total Actual Formula dollars Allocated (prepopulated from C-REEMS)			
Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
7121034	0	5085204	0

**Institution Name:** Tuskegee University

1. Total Actual Formula dollars Allocated (prepopulated from C-REEMS)			
Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
0	2165112	0	2661556

**Institution Name:** Alabama A&M University

<b>2. Totalled Actual dollars from Planned Programs Inputs</b>				
	<b>Extension</b>		<b>Research</b>	
	<b>Smith-Lever 3b &amp; 3c</b>	<b>1890 Extension</b>	<b>Hatch</b>	<b>Evans-Allen</b>
<b>Actual Formula</b>	0	2233070	0	2463278
<b>Actual Matching</b>	0	2233070	0	2463278
<b>Actual All Other</b>	0	4624147	0	0
<b>Total Actual Expended</b>	0	9090287	0	4926556

**Institution Name:** Auburn University

<b>2. Totalled Actual dollars from Planned Programs Inputs</b>				
	<b>Extension</b>		<b>Research</b>	
	<b>Smith-Lever 3b &amp; 3c</b>	<b>1890 Extension</b>	<b>Hatch</b>	<b>Evans-Allen</b>
<b>Actual Formula</b>	6887654	0	4684982	0
<b>Actual Matching</b>	7121034	0	4708329	0
<b>Actual All Other</b>	35994825	0	18202660	0
<b>Total Actual Expended</b>	50003513	0	27595971	0

**Institution Name:** Tuskegee University

<b>2. Totalled Actual dollars from Planned Programs Inputs</b>				
	<b>Extension</b>		<b>Research</b>	
	<b>Smith-Lever 3b &amp; 3c</b>	<b>1890 Extension</b>	<b>Hatch</b>	<b>Evans-Allen</b>
<b>Actual Formula</b>	0	2093918	0	2661556
<b>Actual Matching</b>	0	1435964	0	2342169
<b>Actual All Other</b>	0	0	0	0
<b>Total Actual Expended</b>	0	3529882	0	5003725

<b>3. Amount of Above Actual Formula Dollars Expended which comes from Carryover funds from previous</b>				
<b>Carryover</b>	6887654	694952	4477281	1903592



**V. Planned Program Table of Content**

<b>S. No.</b>	<b>PROGRAM NAME</b>
1	Global Food Security and Hunger
2	Natural resource conservation and management, environmental sustainability, and climate
3	Food Systems and Food Safety
4	Human nutrition, well-being, health and obesity
5	Sustainable Energy
6	Community Development
7	Family, Home, 4-H and Youth Development

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

**Program # 1**

**1. Name of the Planned Program**

Global Food Security and Hunger

Reporting on this Program

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

1. Program Knowledge Areas and Percentage

<b>KA Code</b>	<b>Knowledge Area</b>	<b>%1862 Extension</b>	<b>%1890 Extension</b>	<b>%1862 Research</b>	<b>%1890 Research</b>
101	Appraisal of Soil Resources	0%	0%	2%	5%
102	Soil, Plant, Water, Nutrient Relationships	4%	4%	2%	13%
111	Conservation and Efficient Use of Water	10%	10%	10%	5%
123	Management and Sustainability of Forest Resources	10%	10%	2%	5%
125	Agroforestry	5%	5%	2%	9%
132	Weather and Climate	5%	5%	4%	3%
201	Plant Genome, Genetics, and Genetic Mechanisms	0%	0%	6%	4%
202	Plant Genetic Resources	0%	0%	4%	8%
203	Plant Biological Efficiency and Abiotic Stresses Affecting Plants	0%	0%	6%	2%
205	Plant Management Systems	10%	10%	18%	2%
206	Basic Plant Biology	2%	2%	4%	2%
211	Insects, Mites, and Other Arthropods Affecting Plants	5%	5%	4%	2%
212	Pathogens and Nematodes Affecting Plants	0%	0%	4%	3%
213	Weeds Affecting Plants	2%	2%	2%	1%
216	Integrated Pest Management Systems	10%	10%	6%	6%
302	Nutrient Utilization in Animals	5%	5%	6%	8%
311	Animal Diseases	10%	10%	8%	2%
402	Engineering Systems and Equipment	2%	2%	2%	0%
502	New and Improved Food Products	5%	5%	4%	10%
601	Economics of Agricultural Production and Farm Management	15%	15%	4%	10%
	<b>Total</b>	100%	100%	100%	100%

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

1. Actual amount of FTE/SYs expended this Program

**Auburn University**

Year: 2015	Extension		Research	
	1862	1890	1862	1890
<b>Plan</b>	26.1	5.3	22.0	21.5
<b>Actual Paid</b>	60.0	0.0	174.0	0.0
<b>Actual Volunteer</b>	0.0	0.0	0.0	0.0

**Alabama A&M University**

Year: 2015	Extension		Research	
	1862	1890	1862	1890
<b>Plan</b>	26.1	5.3	22.0	21.5
<b>Actual Paid</b>	0.0	3.6	0.0	0.4
<b>Actual Volunteer</b>	0.0	0.0	0.0	0.0

**Tuskegee University**

Year: 2015	Extension		Research	
	1862	1890	1862	1890
<b>Plan</b>	26.1	5.3	22.0	21.5
<b>Actual Paid</b>	0.0	9.8	0.0	14.7
<b>Actual Volunteer</b>	0.0	0.0	0.0	0.0

**2. Institution Name:** Auburn University

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

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
1153142	0	2440161	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
1574209	0	2454816	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
6240115	0	8123531	0

**2. Institution Name:** Alabama A&M University

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

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
0	266480	0	220063
1862 Matching	1890 Matching	1862 Matching	1890 Matching
0	266480	0	220063
1862 All Other	1890 All Other	1862 All Other	1890 All Other
0	381559	0	0

**2. Institution Name:** Tuskegee University

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

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
0	776814	0	1145840
1862 Matching	1890 Matching	1862 Matching	1890 Matching
0	532723	0	1003160
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**

Provide research based information on a **Holistic Real Time (HRT)** basis to increase farm productivity in agronomy, agricultural engineering, climate, entomology, nematology, plant pathology, weed science, and related disciplines at multiple sites across Alabama.

**Poultry Health and Management** Auburn poultry specialists worked directly with poultry industry personnel to explore solutions to industry problems in the field and processing plant. Areas covered in 2015 include necrotic enteritis control with the reduction in the use of feed-grade antibiotics, feed mill efficiency, efficacy of litter treatments to reduce broiler house ammonia, alternative bedding materials for broiler farmers to use in broiler houses and methods to reduce footpad irritation in broilers. Also, Avian Influenza preparedness became an issue during the calendar year.

**AEFSN** outreach activities placed emphasis on hair sheep and meat goat production systems and focused on areas such as reproductive and genetic evaluations, forage management, silvopasture systems, use of FAMACHA© chart, fecal egg counts, integrated gastrointestinal parasite management, biosecurity measures to enhance animal health, feeding and nutrition, and fence products and utilization.

**Small Ruminant Production, Edible Plants and Healthy Food Choice-** Four projects evaluated were ruminant production, applications of edible daylilies, interventions to increase healthy food choices and enzymatic hydrolysis of red kidney beans. The main objective of the study on ruminant production was to improve the information base on livestock production in North Alabama by compiling and reviewing quantitative

information on various aspects of ruminant production systems, estimating output from different systems, and quantifying their contribution to the overall availability of livestock products for human consumption. **The Small Farm Training, Technical Assistance and Education Program** conducted 36 outreach workshops and training conferences focused on farm ownership, operating and housing loans.

The **"Addressing Gaps between Knowledge and Practice"** project used interactive workshop format to engage small livestock producers in business planning, farm economics/record keeping.

Six training sessions and field days were conducted by using the previously-developed curricula on **"Sustainable Year-Round Forage Production and Grazing/Browsing Management for Goats in the Southern Region"** technical assistance was provided continuously on as-needed basis to livestock producers.

**Genetic Makers** Identification of genome-wide enhancers in the Arabidopsis genome: Using flower dip transformation procedure, tissue-specific enhancers were isolated and validated.

## 2. Brief description of the target audience

**HRTI** General Public, Farmers, Crop Consultants, Agribusiness Personnel, Regional and Statewide Extension Specialists, AU AAES Support Personnel and Faculty, State and Federal Ag Services Personnel.

**Poultry Health and Management** Although Extension specialists worked primarily with poultry industry personnel and some allied industry technical consultants, efforts were aimed at improving conditions in broiler houses for the 2,500 poultry farmers in Alabama.

**AEFSN-** The primary target audience was small scale and limited resource farmers developing profitable, sustainable meat goat and sheep production systems.

**Small Ruminant Production, Edible Plants and Healthy Food Choice-** The target audience consisted of landowners and farmers in North Alabama, business owners and managers particularly of groceries and supermarkets that sold fresh foods and the general public who were made aware of the importance of quality foods and fresh food intake and their relationship to health and food processor and food industry. **Sustainable Meat and Goat** Limited resource, minority, underserved and socially disadvantaged farmers in Alabama and neighboring counties in nearby States. Disadvantaged Farmers- Historically disadvantaged and limited resource livestock producers in Alabama, especially Black Belt Region.

**Genetic Makers-** Plant research communities and peanut farmers.

## 3. How was eXtension used?

eXtension was not used in this program

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

### 1. Standard output measures

2015	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
<b>Actual</b>	49279	3797573	21093	3070

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

**Patent Applications Submitted**

Year: 2015  
 Actual: 1

**Patents listed**

Tuskegee University Research and Extension received a patent for pine bark as a natural dewormer.

**3. Publications (Standard General Output Measure)**

**Number of Peer Reviewed Publications**

2015	Extension	Research	Total
Actual	85	77	130

**V(F). State Defined Outputs**

**Output Target**

**Output #1**

**Output Measure**

- Peer reviewed publications.

Year	Actual
2015	0

**Output #2**

**Output Measure**

- Patent applications and disclosures.

Year	Actual
2015	0

**Output #3**

**Output Measure**

- Products such as crop varieties, animal breeds, vaccines, methods developed and evaluated in Alabama best agricultural practices development and evaluations.

Year	Actual
2015	0

**Output #4**

**Output Measure**

- The output target will consist of training, technical assistance, and service in Horticulture, Plasticulture, Organic Farming, Food Processing, Cooperatives, Markets, Enterprise Budgeting

and Economic Analysis, Forest Management, Animal Management and Marketing involving farmers, landowners, homeowners, senior citizens, youth farmer organizations, federal and state agencies and private industry. For socially disadvantaged and low asset communities: referred publications, fact sheets and brochures, graduate thesis, new varieties introduced, new information and technology, workshops and animal production.

<b>Year</b>	<b>Actual</b>
2015	0

**Output #5**

**Output Measure**

- Number of Holistic Real Time (HRT) response meetings.

<b>Year</b>	<b>Actual</b>
2015	55

**Output #6**

**Output Measure**

- Number of Holistic Real Time (HRT) response demonstrations

<b>Year</b>	<b>Actual</b>
2015	230

**Output #7**

**Output Measure**

- Number of Holistic Real Time (HRT) response in-service training sessions for Extension and Research personnel

<b>Year</b>	<b>Actual</b>
2015	10

**Output #8**

**Output Measure**

- Number of Holistic Real Time (HRT) response participants

<b>Year</b>	<b>Actual</b>
2015	5586

**Output #9**

**Output Measure**

- Number of Holistic Real Time (HRT) response educational publications developed or improved (includes: number of bulletins, handbooks, special products, newsletters/news releases, factsheets, eXtension factsheets, magazine, and newspaper articles)

<b>Year</b>	<b>Actual</b>
2015	78

**Output #10**

**Output Measure**

- Number of Holistic Real Time (HRT) response exhibitions and tradeshow

<b>Year</b>	<b>Actual</b>
2015	4

**Output #11**

**Output Measure**

- The number of Holistic Real Time (HRT) response Electronic Media (web based materials including blog posts, twitter posts, video productions)

<b>Year</b>	<b>Actual</b>
2015	323

**Output #12**

**Output Measure**

- Number of Peanut IPM workshops

<b>Year</b>	<b>Actual</b>
2015	12

**Output #13**

**Output Measure**

- Number of Peanut Insect Pest Management participants

<b>Year</b>	<b>Actual</b>
2015	575

**Output #14**

**Output Measure**

- Number of Peanut Insect Pest Management result demonstrations

<b>Year</b>	<b>Actual</b>
2015	2

**Output #15**

**Output Measure**

- Number of social media Peanut Insect Pest Management information sharing and interactions



<b>Year</b>	<b>Actual</b>
2015	183

**Output #16**

**Output Measure**

- Number of Peanut Insect Pest Management technical assistance hours

<b>Year</b>	<b>Actual</b>
2015	40

**Output #17**

**Output Measure**

- Number of Conventional vegetable IPM project technical assistance hours

<b>Year</b>	<b>Actual</b>
2015	80

**Output #18**

**Output Measure**

- Number of participants

<b>Year</b>	<b>Actual</b>
2015	898

**Output #19**

**Output Measure**

- Number of Conventional vegetable IPM project referred publications, fact sheets, and brochures developed for socially disadvantaged and low asset communities

<b>Year</b>	<b>Actual</b>
2015	8

**Output #20**

**Output Measure**

- Number of Conventional vegetable IPM project training events and conferences for target audience

<b>Year</b>	<b>Actual</b>
2015	15

**Output #21**

**Output Measure**

- Number of Conventional vegetable IPM project demonstrations on research farms

<b>Year</b>	<b>Actual</b>
2015	2

**Output #22**

**Output Measure**

- Number of Conventional vegetable IPM project educational videos available on the Vegetable IPM website/ACES YouTube

<b>Year</b>	<b>Actual</b>
2015	14

**Output #23**

**Output Measure**

- Number of Conventional vegetable IPM project IMPACT videos available on the Vegetable IPM/ACES YouTube Channel

<b>Year</b>	<b>Actual</b>
2015	5

**Output #24**

**Output Measure**

- Number of Conventional vegetable IPM project websites maintained (Vegetable IPM, IPM Communicator, Beginning Farmers)

<b>Year</b>	<b>Actual</b>
2015	3

**Output #25**

**Output Measure**

- Number of Organic small farm vegetable IPM educational campaign training events and conferences for target audience

<b>Year</b>	<b>Actual</b>
2015	19

**Output #26**

**Output Measure**

- Number of Organic small farm vegetable IPM educational campaign technical assistance hours

<b>Year</b>	<b>Actual</b>
2015	100

**Output #27**

**Output Measure**

- Number of Organic small farm vegetable IPM educational campaign workshops

<b>Year</b>	<b>Actual</b>
2015	5

**Output #28**

**Output Measure**

- Number of exhibitions and tradeshow

<b>Year</b>	<b>Actual</b>
2015	3

**Output #29**

**Output Measure**

- Number of on-farm and research IPM demonstrations

<b>Year</b>	<b>Actual</b>
2015	5

**Output #30**

**Output Measure**

- Total number of participants training in Organic small farm vegetable IPM educational campaign technologies for all events (statewide)

<b>Year</b>	<b>Actual</b>
2015	793

**Output #31**

**Output Measure**

- Number of Organic small farm vegetable IPM educational campaign educational publications developed or improved

<b>Year</b>	<b>Actual</b>
2015	15

**Output #32**

**Output Measure**

- Number of Organic small farm vegetable IPM educational campaign educational videos available on the Vegetable IPM website/ACES YouTube

<b>Year</b>	<b>Actual</b>
2015	14

**Output #33**

**Output Measure**

- Number of Organic small farm vegetable IPM educational campaign IMPACT videos available on the Vegetable IPM website/ACES YouTube

<b>Year</b>	<b>Actual</b>
2015	5

**Output #34**

**Output Measure**

- Number of Organic small farm vegetable IPM educational campaign websites developed or maintained (Vegetable IPM, IPM Communicator, Beginning Farmers)

<b>Year</b>	<b>Actual</b>
2015	3

**Output #35**

**Output Measure**

- Number of Sustainable Horticulture Crops in-service training sessions for Extension and Research personnel

<b>Year</b>	<b>Actual</b>
2015	3

**Output #36**

**Output Measure**

- Number of Sustainable Horticulture Crops workshops

<b>Year</b>	<b>Actual</b>
2015	225

**Output #37**

**Output Measure**

- Number of Sustainable Horticulture Crops Programs participants

<b>Year</b>	<b>Actual</b>
2015	5000

**Output #38**

**Output Measure**

- Number of Poultry Industry Seminars and Training participants

<b>Year</b>	<b>Actual</b>
2015	4435

**Output #39**

**Output Measure**

- Number of Small Poultry Flock Support and Training events and conferences.

<b>Year</b>	<b>Actual</b>
2015	8

**Output #40**

**Output Measure**

- Number of participants in poultry industry health and management training sessions.

<b>Year</b>	<b>Actual</b>
2015	285

**Output #41**

**Output Measure**

- Improving footpad quality through field and processing plant management

<b>Year</b>	<b>Actual</b>
2015	4

**Output #42**

**Output Measure**

- Number of Alabama Ethnic Food Security Network workshops

<b>Year</b>	<b>Actual</b>
2015	15

**Output #43**

**Output Measure**

- Number of Alabama Ethnic Food Security Network educational activities such as field days, farm tours, and conferences

<b>Year</b>	<b>Actual</b>
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2015 8

**Output #44**

**Output Measure**

- Number of Reaction based response to commercial horticulture industry issues training events and conferences for target audience

<b>Year</b>	<b>Actual</b>
2015	15

**Output #45**

**Output Measure**

- Number of Reaction based response to commercial horticulture industry issues educational publications developed or improved

<b>Year</b>	<b>Actual</b>
2015	15

**Output #46**

**Output Measure**

- Number of samples processed through the Auburn Plant Diagnostic Lab, providing clients with diagnoses and IPM recommendations.

<b>Year</b>	<b>Actual</b>
2015	2812

**Output #47**

**Output Measure**

- Number of Reaction based response to commercial horticulture industry issues on-site visits to troubleshoot plant diseases/disorders.

<b>Year</b>	<b>Actual</b>
2015	15

**Output #48**

**Output Measure**

- Number of Nutrient Management Training for Professionals participants

<b>Year</b>	<b>Actual</b>
2015	54308

**Output #49**

**Output Measure**

- Number of Nutrient Management Training for Professionals workshops

<b>Year</b>	<b>Actual</b>
2015	16

**Output #50**

**Output Measure**

- Number of hours of continuing education units (CEU's) earned by Nutrient Management Training for Professionals training attendees

<b>Year</b>	<b>Actual</b>
2015	4308

**Output #51**

**Output Measure**

- Number of Agriplastics peer-reviewed publications

<b>Year</b>	<b>Actual</b>
2015	1

**Output #52**

**Output Measure**

- Number of Middle and High Schools implementing Agriplastics programs

<b>Year</b>	<b>Actual</b>
2015	9

**Output #53**

**Output Measure**

- Number of Agriplastics workshops

<b>Year</b>	<b>Actual</b>
2015	24

**Output #54**

**Output Measure**

- Number of University Students trained in Agriplastics

<b>Year</b>	<b>Actual</b>
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2015 2

**Output #55**

**Output Measure**

- Number of Agriplastics Houses Constructed

<b>Year</b>	<b>Actual</b>
2015	2

**Output #56**

**Output Measure**

- Number of Agriplastics bulletins developed

<b>Year</b>	<b>Actual</b>
2015	4

**Output #57**

**Output Measure**

- Number of Veteran Farmers reached with Agriplastics programs

<b>Year</b>	<b>Actual</b>
2015	7

**Output #58**

**Output Measure**

- Number of crop varieties evaluated for Agriplastics production:

<b>Year</b>	<b>Actual</b>
2015	7

**Output #59**

**Output Measure**

- Number of Agriplastics poster presentations:

<b>Year</b>	<b>Actual</b>
2015	2

**Output #60**

**Output Measure**

- Number of participants in off-site Agriplastics demonstrations:



<b>Year</b>	<b>Actual</b>
2015	142

**Output #61**

**Output Measure**

- Number of Women, Beginning, and Veteran Farmers receiving direct technical and outreach assistance

<b>Year</b>	<b>Actual</b>
2015	1500

**Output #62**

**Output Measure**

- Number of training sessions held for Women, Beginning, and Veteran Farmers

<b>Year</b>	<b>Actual</b>
2015	25

**Output #63**

**Output Measure**

- Number of materials disseminated to beginning, women, and veteran farmers that will assist them in starting and expanding their farming operation

<b>Year</b>	<b>Actual</b>
2015	2165

**Output #64**

**Output Measure**

- Number of individuals participating in community gardening and horticultural therapy

<b>Year</b>	<b>Actual</b>
2015	150

**Output #65**

**Output Measure**

- Number of individuals receiving produce from the community garden project

<b>Year</b>	<b>Actual</b>
2015	980

**Output #66**

**Output Measure**

- Number of Beginning, Women and Veterans Farmers partnerships formed

<b>Year</b>	<b>Actual</b>
2015	20

**Output #67**

**Output Measure**

- Number of Beginning, Women and Veterans Farmers emails sent to participants

<b>Year</b>	<b>Actual</b>
2015	6000

**Output #68**

**Output Measure**

- Number of Beginning, Women and Veterans Farmers youth participating

<b>Year</b>	<b>Actual</b>
2015	125

**Output #69**

**Output Measure**

- Number of forage species evaluated to be grown in silvopastures for goats

<b>Year</b>	<b>Actual</b>
2015	13

**Output #70**

**Output Measure**

- Regional training sessions conducted on sustainable agroforestry practices in the Southeastern region

<b>Year</b>	<b>Actual</b>
2015	5

**Output #71**

**Output Measure**

- Number of people participated in the Sustainable agroforestry practices in the Southeastern Region educational events

<b>Year</b>	<b>Actual</b>
2015	181

**Output #72**

**Output Measure**

- Number of Sustainable agroforestry practices in the Southeastern Region technical and poster

presentations presented

<b>Year</b>	<b>Actual</b>
2015	14

**Output #73**

**Output Measure**

- Number of Sustainable agroforestry practices in the Southeastern Region on- and off-site demonstrations

<b>Year</b>	<b>Actual</b>
2015	5

**Output #74**

**Output Measure**

- Number of participants in the Sustainable agroforestry practices in the Southeastern Region demonstration

<b>Year</b>	<b>Actual</b>
2015	181

**Output #75**

**Output Measure**

- Number of Sustainable agroforestry practices in the Southeastern Region exhibitions and tradeshow

<b>Year</b>	<b>Actual</b>
2015	3

**Output #76**

**Output Measure**

- Number of participants in the Sustainable agroforestry practices in the Southeastern Region exhibitions and tradeshow

<b>Year</b>	<b>Actual</b>
2015	150

**Output #77**

**Output Measure**

- Number of Sustainable agroforestry practices in the Southeastern Region direct and indirect contacts

<b>Year</b>	<b>Actual</b>
2015	614

**Output #78**

**Output Measure**

- Number of Sustainable agroforestry practices in the Southeastern Region flyers developed and shared

<b>Year</b>	<b>Actual</b>
2015	1000

**Output #79**

**Output Measure**

- Number of Sustainable agroforestry practices in the Southeastern Region Peer reviewed publications

<b>Year</b>	<b>Actual</b>
2015	6

**Output #80**

**Output Measure**

- Number of discussion/educational sessions conducted for Assisting Small Scale Beef Cattle Producers in the Black Belt Counties of Alabama

<b>Year</b>	<b>Actual</b>
2015	16

**Output #81**

**Output Measure**

- Number of Assisting Small Scale Beef Cattle Producers in the Black Belt Counties of Alabama field visits organized

<b>Year</b>	<b>Actual</b>
2015	25

**Output #82**

**Output Measure**

- Number of Assisting Small Scale Beef Cattle Producers in the Black Belt Counties of Alabama demonstration sessions organized

<b>Year</b>	<b>Actual</b>
2015	4

**Output #83**

**Output Measure**

- Number of people participating in Assisting Small Scale Beef Cattle Producers in the Black Belt Counties of Alabama discussion/education sessions

<b>Year</b>	<b>Actual</b>
2015	128

**Output #84**

**Output Measure**

- Number of people participating in Assisting Small Scale Beef Cattle Producers in the Black Belt Counties of Alabama demonstrations

<b>Year</b>	<b>Actual</b>
2015	43

**Output #85**

**Output Measure**

- Number of people participated in Assisting Small Scale Beef Cattle Producers in the Black Belt Counties of Alabama field visits

<b>Year</b>	<b>Actual</b>
2015	52

**Output #86**

**Output Measure**

- Peer reviewed publications

<b>Year</b>	<b>Actual</b>
2015	5

**Output #87**

**Output Measure**

- Patent applications and disclosures

<b>Year</b>	<b>Actual</b>
2015	1

**Output #88**

**Output Measure**

- Number of onsite demonstration

<b>Year</b>	<b>Actual</b>
2015	1

**Output #89**

**Output Measure**

- Number of goat producers participated at the 2nd national goat conference

<b>Year</b>	<b>Actual</b>
2015	12

**Output #90**

**Output Measure**

- Training sessions and field days conducted on integrated approach for managing diseases and parasites in small ruminants

<b>Year</b>	<b>Actual</b>
2015	6

**Output #91**

**Output Measure**

- Number of people participated in Integrated Approach for Managing Diseases and Parasites in Small Ruminants educational events

<b>Year</b>	<b>Actual</b>
2015	115

**Output #92**

**Output Measure**

- Number of Integrated Approach for Managing Diseases and Parasites in Small Ruminants technical and poster presentations

<b>Year</b>	<b>Actual</b>
2015	11

**Output #93**

**Output Measure**

- Number of Integrated Approach for Managing Diseases and Parasites in Small Ruminants on- and off-site demonstrations

<b>Year</b>	<b>Actual</b>
2015	6

**Output #94**

**Output Measure**

- Number of Integrated Approach for Managing Diseases and Parasites in Small Ruminants exhibitions and tradeshow

<b>Year</b>	<b>Actual</b>
2015	3

**Output #95**

**Output Measure**

- Number of participants in the Integrated Approach for Managing Diseases and Parasites in Small Ruminants exhibitions and tradeshow

<b>Year</b>	<b>Actual</b>
2015	150

**Output #96**

**Output Measure**

- Number of Integrated Approach for Managing Diseases and Parasites in Small Ruminants direct and indirect contacts

<b>Year</b>	<b>Actual</b>
2015	1759

**Output #97**

**Output Measure**

- Number of Integrated Approach for Managing Diseases and Parasites in Small Ruminants publication improved

<b>Year</b>	<b>Actual</b>
2015	3

**Output #98**

**Output Measure**

- Number of Integrated Approach for Managing Diseases and Parasites in Small Ruminants flyers developed and shared

<b>Year</b>	<b>Actual</b>
2015	700

**Output #99**

**Output Measure**

- Number of Identification of Molecular Markers Linked to Disease-Resistant Genes for Molecular Breeding in Plants peer reviewed publications

<b>Year</b>	<b>Actual</b>
2015	2

**Output #100**

**Output Measure**

- Number of Identification of Molecular Markers Linked to Disease-Resistant Genes for Molecular Breeding in Plants technical and poster presentations

<b>Year</b>	<b>Actual</b>
2015	2

**Output #101**

**Output Measure**

- Number of Conventional versus Pastured Poultry Production on the Performance and Meat Quality of Broiler Chickens Peer Reviewed Publications

<b>Year</b>	<b>Actual</b>
2015	8

**Output #102**

**Output Measure**

- Number of Conventional versus Pastured Poultry Production on the Performance and Meat Quality of Broiler Chickens abstracts

<b>Year</b>	<b>Actual</b>
2015	5

**Output #103**

**Output Measure**

- Number of Conventional versus Pastured Poultry Production on the Performance and Meat Quality of Broiler Chickens presentations given at scientific meetings

<b>Year</b>	<b>Actual</b>
2015	3

**Output #104**

**Output Measure**

- Number of Conventional versus Pastured Poultry Production on the Performance and Meat Quality of Broiler Chickens Extension Publications

<b>Year</b>	<b>Actual</b>
2015	3

**Output #105**

**Output Measure**

- Number of Conventional versus Pastured Poultry Production on the Performance and Meat Quality of Broiler Chickens training programs

<b>Year</b>	<b>Actual</b>
2015	4



**Output #106**

**Output Measure**

- Number of Conventional versus Pastured Poultry Production on the Performance and Meat Quality of Broiler Chickens farm demonstrations

<b>Year</b>	<b>Actual</b>
2015	2

**Output #107**

**Output Measure**

- Number of Conventional versus Pastured Poultry Production on the Performance and Meat Quality of Broiler Chickens graduate students

<b>Year</b>	<b>Actual</b>
2015	3

**Output #108**

**Output Measure**

- Number of Conventional versus Pastured Poultry Production on the Performance and Meat Quality of Broiler Chickens thesis

<b>Year</b>	<b>Actual</b>
2015	3

**Output #109**

**Output Measure**

- Addressing Gaps between Knowledge and Practice in Production and Distribution of Local and Regional Foods for a More Secure Food Supply Chain: The number of referred publications for socially disadvantaged and low asset communities

<b>Year</b>	<b>Actual</b>
2015	16

**Output #110**

**Output Measure**

- Addressing Gaps between Knowledge and Practice in Production and Distribution of Local and Regional Foods for a More Secure Food Supply Chain: Number of graduate students completed

<b>Year</b>	<b>Actual</b>
2015	2

**Output #111**

**Output Measure**

- Addressing Gaps between Knowledge and Practice in Production and Distribution of Local and Regional Foods for a More Secure Food Supply Chain: Number of technical and poster presentations

<b>Year</b>	<b>Actual</b>
2015	4

**Output #112**

**Output Measure**

- Addressing Gaps between Knowledge and Practice in Production and Distribution of Local and Regional Foods for a More Secure Food Supply Chain: Number of training events and conferences for target audience

<b>Year</b>	<b>Actual</b>
2015	11

**Output #113**

**Output Measure**

- Addressing Gaps between Knowledge and Practice in Production and Distribution of Local and Regional Foods for a More Secure Food Supply Chain: Number of participants

<b>Year</b>	<b>Actual</b>
2015	65

**Output #114**

**Output Measure**

- Woodland grazing with goats: The number of woodland species inventoried

<b>Year</b>	<b>Actual</b>
2015	22

**Output #115**

**Output Measure**

- Woodland grazing with goats: Number of woodland species evaluated for quality for grazing with goats

<b>Year</b>	<b>Actual</b>
2015	22

**Output #116**

**Output Measure**

- Woodland grazing with goats: Number of people participated in the educational events

<b>Year</b>	<b>Actual</b>
2015	95

**Output #117**

**Output Measure**

- Woodland grazing with goats: Number of technical and poster presentations

<b>Year</b>	<b>Actual</b>
2015	5

**Output #118**

**Output Measure**

- Woodland grazing with goats: Number of on- and off-site demonstrations

<b>Year</b>	<b>Actual</b>
2015	4

**Output #119**

**Output Measure**

- Woodland grazing with goats: Number of direct and indirect contacts

<b>Year</b>	<b>Actual</b>
2015	525

**Output #120**

**Output Measure**

- The number of Sustainable Livestock Production through Year-Round Forage Production and Grazing/Browsing Management peer reviewed publications

<b>Year</b>	<b>Actual</b>
2015	4

**Output #121**

**Output Measure**

- Number of forage species evaluated for developing year-round pastures for goats

<b>Year</b>	<b>Actual</b>
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2015 9

**Output #122**

**Output Measure**

- The number of training sessions and field days conducted on sustainable Year-round forage production and grazing/browsing management

<b>Year</b>	<b>Actual</b>
2015	6

**Output #123**

**Output Measure**

- Number of people participated in Sustainable Livestock Production through Year-Round Forage Production and Grazing/Browsing Management educational events

<b>Year</b>	<b>Actual</b>
2015	109

**Output #124**

**Output Measure**

- Number of Sustainable Livestock Production through Year-Round Forage Production and Grazing/Browsing Management technical and poster presentations

<b>Year</b>	<b>Actual</b>
2015	18

**Output #125**

**Output Measure**

- Number of Sustainable Livestock Production through Year-Round Forage Production and Grazing/Browsing Management on- and off-site demonstrations

<b>Year</b>	<b>Actual</b>
2015	6

**Output #126**

**Output Measure**

- Number of Sustainable Livestock Production through Year-Round Forage Production and Grazing/Browsing Management participants in the demonstration

<b>Year</b>	<b>Actual</b>
2015	109

**Output #127**

**Output Measure**

- Number of Sustainable Livestock Production through Year-Round Forage Production and Grazing/Browsing Management exhibitions and tradeshow

<b>Year</b>	<b>Actual</b>
2015	3

**Output #128**

**Output Measure**

- Number of participants in Sustainable Livestock Production through Year-Round Forage Production and Grazing/Browsing Management exhibitions and tradeshow

<b>Year</b>	<b>Actual</b>
2015	150

**Output #129**

**Output Measure**

- Number of Sustainable Livestock Production through Year-Round Forage Production and Grazing/Browsing Management direct and indirect contacts

<b>Year</b>	<b>Actual</b>
2015	3175

**Output #130**

**Output Measure**

- Number of Sustainable Livestock Production through Year-Round Forage Production and Grazing/Browsing Management flyers developed and shared

<b>Year</b>	<b>Actual</b>
2015	995

**Output #131**

**Output Measure**

- The number of Sustainable Livestock Production through Year-Round Forage Production and Grazing/Browsing Management Sustainable Livestock Production through Year-Round Forage Production and Grazing/Browsing Management peer reviewed publications

<b>Year</b>	<b>Actual</b>
2015	4

**Output #132**

**Output Measure**

- Number of graduate students completed

<b>Year</b>	<b>Actual</b>
2015	5

**Output #133**

**Output Measure**

- Number of Products developed and evaluated

<b>Year</b>	<b>Actual</b>
2015	22

**Output #134**

**Output Measure**

- Number of vaccines developed and/or tested

<b>Year</b>	<b>Actual</b>
2015	5

**Output #135**

**Output Measure**

- Peer reviewed publications.

<b>Year</b>	<b>Actual</b>
2015	55

**V(G). State Defined Outcomes**

**V. State Defined Outcomes Table of Content**

O. No.	OUTCOME NAME
1	The long term target is to increase or to sustain agricultural production as measured by market value of agricultural products (2008 = \$4.67 billion). Program success will be indicated if market value of AL agricultural products stays level or increase. The short term outcome target will be the number of producers who are informed of the method developed, the varieties developed, or the best practices developed; The mid-term measure will be the number of farmers and producers adopting the methods, varieties, improved genetic stocks, or adopting the best agricultural practices.
2	Development of new variety of crops, new breeds of animals and stocks of poultry or aquaculture species
3	Development of technologies for control and management of plant diseases, pests, and animal diseases
4	Development and/or application of technologies, farming approaches, or organizational strategies that ensure the sustainability of rural communities and agricultural and forestry production systems.
5	Increase farmers' knowledge in efficient and profitable methods of goat, sheep, and specialty vegetable production
6	Increase broiler producer awareness of methods to reduce waste management issues on farms; Increase poultry producer confidence in litter management techniques; and Train poultry industry personnel in poultry house technology and management
7	Increase knowledge of horticultural production methods and marketing
8	Adoption of row crop production practices that are sustainable and profitable
9	Integrated pest management adoption
10	Increase in active, viable forestry and wildlife county committees
11	Increase the knowledge of catfish producers in more efficient practices; Expand the use of hybrid catfish in production; and Incorporate management that optimizes quality and profitability at all stages of production to marketing
12	Increase understanding of pond function and management by owners; Reduce improper management by consultants; and Increase satisfaction and enjoyment of ponds by owners
13	Increase public understanding of water conservation; Improve angler education to increase understanding of fisheries management; and Increase enjoyment of angling
14	Increase appreciation of aquaculture and aquatic natural resources by students and teachers
15	Increase public awareness of costal environmental issues; Increase public awareness of loss of working waterfront; and Increase community resilience to natural and manmade disasters

16	Increase knowledge and awareness of methodologies and practices used in establishing and sustaining a viable forage base on Alabama livestock and equine farms
17	Increase producer knowledge through comprehensive programming for livestock and equine owners on sustainability of production, proper care and appropriate marketing options
18	The output target will consist of training in Integrated Pest Management, Plasticulture, Organic Farming, Forest Management, Animal Management and Marketing involving farmers, landowners, homeowners, senior citizens, youth farmer organizations, federal and state agencies and private industry. Training will also be inclusive of activities to impact productivity, profitability and sustainability for small scale produces.
19	Dollar value attributed to the increase in farm gate income attributed to extension recommendations.
20	Percentage of farmer stakeholders that plant to adopt control strategies for target spot following extension recommendations.
21	Percent peanut producers who adopted IPM recommendations
22	Percent peanut producers who now understand the nontarget effects of synthetic pyrethroids
23	Dollar impact of long-term Peanut IPM adoption
24	Percent conventional vegetable producers using IPM recommendations for profitable farming
25	Percent producers using IPM publications for following recommended practices
26	Percent producers using recommended Organic small farm vegetable IPM tactics
27	Adoption rate of IPM reactive projects
28	Percent adoption of horticultural crop production and pest management information among producers
29	Percentage of participants showing increased technical knowledge relate to poultry best management practices
30	Percent of participants that reported increased knowledge of poultry husbandry
31	Number of participants that gained knowledge in Avian Influenza preparedness.
32	Increased income from foopad management on the farm and in the processing plant.
33	Number of small-scale and limited-resource farmers that gained knowledge of key production management practices for sheep and goats
34	Number of small-scale and limited-resource farmers that observed improved sheep and goat production efficiency



35	Number of small-scale and limited-resource farmers raising sheep and goats that observed improved herd health and well-being
36	Number of small-scale and limited-resource farmers raising sheep and goats that reported increased profitability rates ranging from 5 to 20%
37	The number of clientele that adopted recommended IPM practices.
38	\$ saved by grower clientele following Auburn Plant Diagnostic Lab recommendations.
39	Percent increase in understanding of nutrient management
40	Participant adoption rate of the information presented in next 12 months
41	Economic impact of acres impacted as a result of best management practice adoption
42	The number of communities with access to innovative technology allowing them to grow fresh vegetables during the harsh wintry season, with only the "Greenhouse Effect" as a heat source.
43	Percentage increase in yield as a result of adoption of Agriplastic recommendations
44	Increase in pounds per production site as a result of tunnel house (agriplastic) adoption
45	Number of women, beginning and veteran farmers increasing their knowledge & skills in agribusiness, financial management and cooperative marketing:
46	Number or percentage of people who increase their knowledge of the benefits and resources available in agriculture for beginning, women and veteran farmers
47	Number or percentage of people who increase their skills in community gardening; as well as in the use of agriculture as a form of therapy.
48	The number of participants who increased knowledge regarding Sustainable agroforestry practices
49	Number of land owners who applied adopted Sustainable agroforestry practices
50	Increased Productivity and quality of cool-season forages grown in silvopasture evaluated
51	The number of trees impacted by debarking behavior of Kiko goats on fairly-grown southern-pine trees
52	The number of Grazing behavior and distribution patterns of goats in southern-pine silvopastures studies
53	Number of people who increased knowledge in beef cattle management as a result of the Assisting Small Scale Beef Cattle Producers in the Black Belt Counties of Alabama program

54	Number of people who adopted recommendations for improving beef cattle management (Assisting Small Scale Beef Cattle Producers in the Black Belt Counties of Alabama)
55	The number of farmers who experienced increased earning weight of calves because of pasture improvement recommendations made by the Assisting Small Scale Beef Cattle Producers in the Black Belt Counties of Alabama program
56	The reduction of fecal egg counts in goats based on Natural Dewormers for the Sustainable Management of Internal Parasites in Small Ruminants
57	The number of farmers who increased knowledge of Sustainable year-round forage production and grazing/browsing management
58	Number of farmers who adopted Sustainable Livestock Production through Year-Round Forage Production and Grazing/Browsing Management recommendations
59	The economic impact of Sustainable Livestock Production through Year-Round Forage Production and Grazing/Browsing Management on three producers
60	The profit increased among 3 farmers as a result of Sustainable Livestock Production through Year-Round Forage Production and Grazing/Browsing Management recommendations
61	The number of Cool-season forage species evaluated to expand the grazing opportunities for goats
62	The number of warm-season forage species evaluated to expand the grazing opportunities for goats
63	The number of browse species evaluated to expand the grazing opportunities for goats and minimize the parasite problem
64	The number of woodland plant species Preferences determined for goats
65	The number of tissue-specific enhancers were isolated and validated for developing disease-resistant peanut variety
66	Number of trainees who increased knowledge of the major diseases and parasites of small ruminants and integrated approach for managing those problems
67	Increased net returns for rearing broilers in a pastured poultry system
68	Number of farmers who enhanced or expanded operations as a result of The Small Farm Training, Technical Assistance and Education Program
69	Increase in amount of USDA funds secured through successful loan applications to operate family farm
70	The number of producers who are informed the best practices developed to sustain agricultural production
71	The number of Composition and quality of woodland browse species evaluated
72	The number of woodland plant-species compositions examined before and after grazing with goats assessed

73	The number of woodland plant species identified that are readily eaten by goats
74	The number of farmers who increased knowledge in utilizing woodland vegetation
75	The number of participants increased knowledge and skills in different aspects of pasture improvement and sustainable grazing management.

**Outcome #1**

**1. Outcome Measures**

The long term target is to increase or to sustain agricultural production as measured by market value of agricultural products (2008 = \$4.67 billion). Program success will be indicated if market value of AL agricultural products stays level or increase. The short term outcome target will be the number of producers who are informed of the method developed, the varieties developed, or the best practices developed; The mid-term measure will be the number of farmers and producers adopting the methods, varieties, improved genetic stocks, or adopting the best agricultural practices.

Not Reporting on this Outcome Measure

**Outcome #2**

**1. Outcome Measures**

Development of new variety of crops, new breeds of animals and stocks of poultry or aquaculture species

Not Reporting on this Outcome Measure

**Outcome #3**

**1. Outcome Measures**

Development of technologies for control and management of plant diseases, pests, and animal diseases

Not Reporting on this Outcome Measure

**Outcome #4**

**1. Outcome Measures**

Development and/or application of technologies, farming approaches, or organizational strategies that ensure the sustainability of rural communities and agricultural and forestry production systems.

Not Reporting on this Outcome Measure

**Outcome #5**

**1. Outcome Measures**

Increase farmers' knowledge in efficient and profitable methods of goat, sheep, and specialty vegetable production

Not Reporting on this Outcome Measure

**Outcome #6**

**1. Outcome Measures**

Increase broiler producer awareness of methods to reduce waste management issues on farms; Increase poultry producer confidence in litter management techniques; and Train poultry industry personnel in poultry house technology and management

Not Reporting on this Outcome Measure

**Outcome #7**

**1. Outcome Measures**

Increase knowledge of horticultural production methods and marketing

Not Reporting on this Outcome Measure

**Outcome #8**

**1. Outcome Measures**

Adoption of row crop production practices that are sustainable and profitable

Not Reporting on this Outcome Measure

**Outcome #9**

**1. Outcome Measures**

Integrated pest management adoption

Not Reporting on this Outcome Measure

**Outcome #10**

**1. Outcome Measures**

Increase in active, viable forestry and wildlife county committees

Not Reporting on this Outcome Measure

**Outcome #11**

**1. Outcome Measures**

Increase the knowledge of catfish producers in more efficient practices; Expand the use of hybrid catfish in production; and Incorporate management that optimizes quality and profitability at all stages of production to marketing

Not Reporting on this Outcome Measure

**Outcome #12**

**1. Outcome Measures**

Increase understanding of pond function and management by owners; Reduce improper management by consultants; and Increase satisfaction and enjoyment of ponds by owners

Not Reporting on this Outcome Measure

**Outcome #13**

**1. Outcome Measures**

Increase public understanding of water conservation; Improve angler education to increase understanding of fisheries management; and Increase enjoyment of angling

Not Reporting on this Outcome Measure

**Outcome #14**

**1. Outcome Measures**

Increase appreciation of aquaculture and aquatic natural resources by students and teachers

Not Reporting on this Outcome Measure

### **Outcome #15**

#### **1. Outcome Measures**

Increase public awareness of costal environmental issues; Increase public awareness of loss of working waterfront; and Increase community resilience to natural and manmade disasters

Not Reporting on this Outcome Measure

### **Outcome #16**

#### **1. Outcome Measures**

Increase knowledge and awareness of methodologies and practices used in establishing and sustaining a viable forage base on Alabama livestock and equine farms

Not Reporting on this Outcome Measure

### **Outcome #17**

#### **1. Outcome Measures**

Increase producer knowledge through comprehensive programming for livestock and equine owners on sustainability of production, proper care and appropriate marketing options

Not Reporting on this Outcome Measure

### **Outcome #18**

#### **1. Outcome Measures**

The output target will consist of training in Integrated Pest Management, Plasticulture, Organic Farming, Forest Management, Animal Management and Marketing involving farmers, landowners, homeowners, senior citizens, youth farmer organizations, federal and state agencies and private industry. Training will also be inclusive of activities to impact productivity, profitability and sustainability for small scale produces.

Not Reporting on this Outcome Measure

### **Outcome #19**

#### **1. Outcome Measures**

Dollar value attributed to the increase in farm gate income attributed to extension recommendations.

#### **2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

Year	Actual
2015	2594301

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

**Issue (Who cares and Why)**

Farmer and Agri-business personnel along with REA's and Extension Specialists often lack the knowledge concerning the application of electronic and seed technology to their farming operations, changing fertility and pesticide recommendations and regulations, the impact of weed resistance to agriculture, as well as the identity, importance, potential yield losses, and applicable control procedures needed to manage emerging and existing weeds, insects, and diseases in corn, cotton, peanut, soybean, wheat and other cereal crops along with production and pest issues dealing with newly introduced crops such as grain sorghum, sesame and carinata in at time of declining farm revenues and increasingly costly and complex cropping systems.

**What has been done**

Conducted crop (carinata, corn, cotton, peanut, sesame, wheat) county, area, and statewide grower meetings (33) and pod blasting workshops (12); herbicide resistant weed and field crop production tours (11); crop and weed tours (10); AAES Research Field Days (2); IPM Crop Scout Training (3); stored grain workshops (2); private pesticide applicator training (15) and pesticide dealer meetings (3); AL Crop Advisory Training; Corn and Wheat Short Course, Climate Workshop. Used electronic media to distribute recommendations (6), newsletters (29) and blog posts (20), Timely Information publications (20), U-Tube videos (10), and Twitter (293) to facilitate the immediate dissemination of information to clientele. Also conducted on-farm demonstrations (99) and research trials (133) on various crop production topics.

**Results**

Dollar value attributed to the increase in farm gate income or reduction in input costs such as fertilizer, seed, pesticides from following extension production or pest management recommendations as well as income gains realized from timely pest alerts generated by scouting activity of extension personnel and cooperators in the Alabama farm community.

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
102	Soil, Plant, Water, Nutrient Relationships
111	Conservation and Efficient Use of Water
132	Weather and Climate
211	Insects, Mites, and Other Arthropods Affecting Plants

212	Pathogens and Nematodes Affecting Plants
213	Weeds Affecting Plants
216	Integrated Pest Management Systems
601	Economics of Agricultural Production and Farm Management

## **Outcome #20**

### **1. Outcome Measures**

Percentage of farmer stakeholders that plant to adopt control strategies for target spot following extension recommendations.

### **2. Associated Institution Types**

- 1862 Extension

### **3a. Outcome Type:**

Change in Action Outcome Measure

### **3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2015	56

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

#### **Issue (Who cares and Why)**

Target spot is an emerging disease of cotton that has the potential, particularly in the southern tier of Alabama counties to reduce lint yield in intensively managed cotton by 20%, particularly on selected cotton varieties. While the knowledge base concerning the onset and development of this disease in cotton is incomplete, preliminary results for research trials as well as observations in stakeholder fields provide preliminary guidelines for greatly limiting disease-related losses. Stakeholders often lack up to date information concerning procedures for managing target spot in cotton.

#### **What has been done**

After the appearance of target spot in cotton in Alabama in 2011, variety and fungicide screening trials have been established at outlying AAES outlying units statewide. Projects have emphasized establishing registered and experimental fungicide efficacy along with the optimum number and timing of recommended fungicides for slowing target spot development. Information has been disseminated through presentations at local, regional, and national cotton meetings to producer, consultant, and other stakeholder groups along print and web-based Timely Information reports, AAES Bulletins, Cotton Beltwide proceedings, and Cotton Inc. publications, as well as digital media such as Twitter and U-tube.

#### **Results**

Percentage of farmer stakeholders that plant to adopt control strategies for target spot from information presented at a series of cotton production meetings concerning the management of



target spot in cotton. Specific chances would likely be planting target spot tolerant cotton varieties and scouting for target spot before triggering fungicide application, and using the most cost effective fungicide.

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
212	Pathogens and Nematodes Affecting Plants

**Outcome #21**

**1. Outcome Measures**

Percent peanut producers who adopted IPM recommendations

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2015	74

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

**Issue (Who cares and Why)**

Peanut producers need continuous information about insect pest outbreaks and pest management options.

**What has been done**

We have completed numerous workshops for producers and crop consultants along with exhibitions that have been attended by 575 participants.

**Results**

About 74% peanut producers have adopted IPM practices that include the use of insect pest scouting practices (48% respondents) and use of insect monitoring systems (24%).

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
216	Integrated Pest Management Systems

**Outcome #22**

**1. Outcome Measures**

Percent peanut producers who now understand the nontarget effects of synthetic pyrethroids

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

Year	Actual
2015	80

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

**Issue (Who cares and Why)**

Producers use broad-spectrum synthetic insecticides that have significant nontarget effects. It is important to screen/demonstrate the benefits of selective insecticides

**What has been done**

2 demonstration plots to show effectiveness of IPM approach, 5 presentations, 1 exhibition on the benefits of selective insecticides (reached to 525 direct and 600 indirect participants)

**Results**

This is a new IPM tactic that is being recommended to producers. Nearly 80% producers and crop consultants are aware of the issue. They will continue to use the information and training to change package of practices.

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
216	Integrated Pest Management Systems

**Outcome #23**

**1. Outcome Measures**

Dollar impact of long-term Peanut IPM adoption

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

Year	Actual
2015	10000

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

**Issue (Who cares and Why)**

Peanut producers call and consult ACES for insect pest problems

**What has been done**

We provide active IPM consultancy to producers through phone calls and emails that results in 80 to 90% adoption rate of the recommendations.

**Results**

IPM Newsletter and Extension event surveys indicates \$426 per acre return rate (short term benefit of IPM consultation). Long-term savings can be \$10,000 per farm with improved pest scouting and management practices (crop and pesticide savings).

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
216	Integrated Pest Management Systems

**Outcome #24**

**1. Outcome Measures**

Percent conventional vegetable producers using IPM recommendations for profitable farming

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

### 3b. Quantitative Outcome

Year	Actual
2015	72

### 3c. Qualitative Outcome or Impact Statement

#### Issue (Who cares and Why)

Vegetable crops are always at risk due to high insect pest pressures in Alabama. If uncontrolled, insect pests can cause about 40% direct crop loss and 100% crop contamination.

#### What has been done

Producers statewide, that included many from low resource communities and military background, were trained through regional educational meetings, workshops, exhibitions, and conferences as reported earlier. Numerous publications and newsletter articles (pest alerts) were also shared with producers to keep them informed.

#### Results

Various IPM tactics are being used by 72% producers resulting in the prevention of crop loss (40% direct losses prevented).

### 4. Associated Knowledge Areas

KA Code	Knowledge Area
211	Insects, Mites, and Other Arthropods Affecting Plants
216	Integrated Pest Management Systems

### Outcome #25

#### 1. Outcome Measures

Percent producers using IPM publications for following recommended practices

#### 2. Associated Institution Types

- 1862 Extension

#### 3a. Outcome Type:

Change in Action Outcome Measure

#### 3b. Quantitative Outcome

Year	Actual
2015	94

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

**Issue (Who cares and Why)**

Producers need access to reliable information in appropriate format such as websites, factsheets, and slidecharts

**What has been done**

The Vegetable IPM project annually revises the SE Vegetable Crop Production Handbook as a critical resources for producers. The YouTube videos and other archived publications (newsletter and magazine articles) provide critical information to producers in multiple formats.

**Results**

Extension surveys at the regional meetings and workshops indicated 40% respondents used the Southeast Vegetable Production Handbook, 30% respondents used the Alabama IPM Communicator Newsletter, and 4% also referred to the Alternative Vegetable IPM Slide Chart. About 20% respondents use the Alabama Vegetable IPM website especially during production season for publications and watching IPM videos. Thus about 94% respondents use at least one publication as a reference for IPM recommendations.

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
211	Insects, Mites, and Other Arthropods Affecting Plants
216	Integrated Pest Management Systems

**Outcome #26**

**1. Outcome Measures**

Percent producers using recommended Organic small farm vegetable IPM tactics

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2015	70

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

**Issue (Who cares and Why)**

Vegetable crops are always at a high risk of failure due to insect pest pressures in Alabama. Yet, only about 30% producers may have IPM training resulting in severe crop losses due to insect feeding and contamination on organic farms.

**What has been done**

Producers statewide, that include many from low resource and military background, were trained through regional educational meetings, workshops, exhibitions, and conferences as indicated before in the output section. In the past 6 years, many new award-winning publications have been developed that include the High Tunnel Crop Production Handbook, Alternative Vegetable IPM Slide Chart (mailed to 28 states within the U.S.), Home Garden IPM Guide, etc. IPM videos are really popular among the clientele videos have about 5,000 views total.

**Results**

Various IPM tactics are being used by 70% producers resulting in the prevention of crop losses under organic/naturally grown systems.

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
211	Insects, Mites, and Other Arthropods Affecting Plants
216	Integrated Pest Management Systems

**Outcome #27**

**1. Outcome Measures**

Adoption rate of IPM reactive projects

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2015	90

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

**Issue (Who cares and Why)**

Small producers call the IPM project lead and Regional Extension Agents for rapid consultancy during production season

**What has been done**

We provide IPM consultation via phone calls and emails to new producers specially. Some farms are mentioned in the impact section.

**Results**

About 90% experienced or new vegetable producers that call or email for rapid answers use the IPM recommendations. Details about impact are separately reported.

#### 4. Associated Knowledge Areas

KA Code	Knowledge Area
211	Insects, Mites, and Other Arthropods Affecting Plants
216	Integrated Pest Management Systems

#### Outcome #28

##### 1. Outcome Measures

Percent adoption of horticultural crop production and pest management information among producers

##### 2. Associated Institution Types

- 1862 Extension

##### 3a. Outcome Type:

Change in Action Outcome Measure

##### 3b. Quantitative Outcome

Year	Actual
2015	90

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

###### **Issue (Who cares and Why)**

Specialty crop production is increasing at roughly 14% per year and many new producers are growing high value crops for the local market. Experienced producers are always looking for expanding to new crops and markets with increasing efficiency of production. Demand for organic crops is rising steadily (15 certified farms) that needs Extension-led research and educational infrastructure for growth and prosperity of small producers.

###### **What has been done**

REAs, Specialists, and Extension Coordinators have organized numerous presentations, educational workshops, and field days.

-REAs and Specialists provided critical one-on-one consultation to over 1,000 small producers who otherwise do not have an unbiased source of information. The plant diagnostic labs analyzed thousands of samples and also provided individualized services to farmers and gardeners.

-The Commercial Horticulture Team also maintains websites, blogs, and social media channels that are incredible sources of information for producers.

###### **Results**

Adoption rate for information after diagnoses of pest problem is 90% or more since entire crop can be at risk of contamination. Pesticide savings and yield improvements are also immediate for

producers that use Extension personnel as their consultants and call regularly.

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
102	Soil, Plant, Water, Nutrient Relationships
111	Conservation and Efficient Use of Water
205	Plant Management Systems
213	Weeds Affecting Plants
216	Integrated Pest Management Systems
601	Economics of Agricultural Production and Farm Management

**Outcome #29**

**1. Outcome Measures**

Percentage of participants showing increased technical knowledge relate to poultry best management practices

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Knowledge Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2015	78

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

**Issue (Who cares and Why)**

The poultry industry looks to Extension and trade organizations for ongoing farmer and personnel training.

**What has been done**

Ongoing group training programs have updated poultry farmers and field personnel on recent advances in poultry husbandry, health management and waste management. Recently, we have added feed milling training to improve the knowledge base of those creating feed for the poultry industry.

**Results**

Assessment instruments administered at the training sessions by the Alabama Poultry and Egg Association and the US Poultry and Egg Association have indicated increased technical knowledge in participants in 2015. This includes five of the nine seminars. Likewise, two



seminars presented by the Alabama Feed and Grain Association reported that participants gained knowledge of current market trends from attending these seminars. This on-the-job technical training is taken seriously by the poultry technical advisors and assessment by the Alabama Poultry and Egg Association indicates that 75% of participants reported increased technical knowledge.

#### 4. Associated Knowledge Areas

KA Code	Knowledge Area
302	Nutrient Utilization in Animals

#### Outcome #30

##### 1. Outcome Measures

Percent of participants that reported increased knowledge of poultry husbandry

##### 2. Associated Institution Types

- 1862 Extension

##### 3a. Outcome Type:

Change in Knowledge Outcome Measure

##### 3b. Quantitative Outcome

Year	Actual
2015	60

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

###### **Issue (Who cares and Why)**

Small poultry flock owners typically have little or incomplete knowledge of poultry husbandry and food safety. Training programs through the Poultry and Animal Science Extension efforts have provided local training to improve bird health and productivity as well as improve food safety techniques of those selling products from small flocks.

###### **What has been done**

Eight seminars were conducted on poultry husbandry and food safety concerns with slamm poultry flocks.

###### **Results**

Eight seminars increased producer knowledge of poultry husbandry and food safety concerns with slamm poultry flocks. Assessment of seminar presented on small flock husbandry indicated that 80% of participants had some knowledge of poultry prior to the meeting and 50% had what they considered large backyard operations. All producers reported that they gained valuable information from the seminars, while 60% mentioned that they learned a lot of new information. Producers mentioned an interest in more training in the food safety area.

#### 4. Associated Knowledge Areas

KA Code	Knowledge Area
302	Nutrient Utilization in Animals
311	Animal Diseases

#### Outcome #31

##### 1. Outcome Measures

Number of participants that gained knowledge in Avian Influenza preparedness.

##### 2. Associated Institution Types

- 1862 Extension

##### 3a. Outcome Type:

Change in Knowledge Outcome Measure

##### 3b. Quantitative Outcome

Year	Actual
2015	285

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

###### Issue (Who cares and Why)

Avian influenza preparedness is critical to the success of poultry industry.

###### What has been done

Several specialists have worked with the Alabama Poultry and Egg Association to prepare farmers for an Avian Influenza outbreak. 285 poultry growers were trained on how to avoid Avian Influenza on their farms.

###### Results

Auburn poultry specialists spoke on biosecurity at three regional meetings and produced a popular press article and an instructional video to prepare broiler growers in case Avian Influenza surfaces in Alabama. 285 participants were cautioned as to the links between farm and community activities and disease transmission in preparation for possible avian influenza introduction into the Southeastern region.

#### 4. Associated Knowledge Areas

KA Code	Knowledge Area
302	Nutrient Utilization in Animals
311	Animal Diseases

### **Outcome #32**

#### **1. Outcome Measures**

Increased income from foopad management on the farm and in the processing plant.

#### **2. Associated Institution Types**

- 1862 Extension

#### **3a. Outcome Type:**

Change in Condition Outcome Measure

#### **3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2015	687500

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

##### **Issue (Who cares and Why)**

Footpad irritation is an economic and animal welfare issue for the poultry industry. Improved housing conditions through improved programs in litter quality, litter treatment use and processing plant handling of feet may improve foot pad quality for sale to Asia.

##### **What has been done**

Dr. Bilgili worked with on poultry company through four visits to improve conditions on-farm and in the processing plant.

##### **Results**

Sarge Bilgili worked closely with one operation this year, improving foot pad income through on-farm and processing plant solutions. The yearly payback on improvements was worth \$687,500 to the operation over the course of a years time.

#### **4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
311	Animal Diseases

### **Outcome #33**

#### **1. Outcome Measures**

Number of small-scale and limited-resource farmers that gained knowledge of key production management practices for sheep and goats

#### **2. Associated Institution Types**

- 1890 Extension

#### **3a. Outcome Type:**

Change in Knowledge Outcome Measure

#### **3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2015	0

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

##### **Issue (Who cares and Why)**

The dynamic population change that has taken place in Alabama represents new opportunities for food producers and marketers. Because consumer demand for ethnic foods is rising, farmers in Alabama, particularly small-scale and limited-resource farmers have tremendous opportunities to diversify, expand, and supply the growing demand for a number of multicultural foods such as goat and lamb. Therefore, to ensure that farmers improve goat and sheep production in Alabama, comprehensive educational products regarding small ruminant management and technological advances were needed.

##### **What has been done**

In an effort to help Alabama farmers increase production of goat and lamb meat, Animal Science specialists and agents from the Urban Affairs and New Nontraditional Program (UANNP) Unit of ACES carried out an array of outreach activities and provided broadly-based and objective information in areas such as feeds and feeding, animal genetics, reproductive management, and health of small ruminants.

##### **Results**

Alabama A&M Extension Small-scale and limited-resource farmers raising sheep and goats in Alabama and neighboring states became more knowledgeable and stayed open to new and different management practices. Four-hundred and seventy-four (474) post surveys indicated that 90.5% (429) of the respondents gained knowledge about goat and sheep nutrition, genetics, reproduction, and health management practices as a result of the educational activities and the information provided.

#### **4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
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302	Nutrient Utilization in Animals
311	Animal Diseases

**Outcome #34**

**1. Outcome Measures**

Number of small-scale and limited-resource farmers that observed improved sheep and goat production efficiency

**2. Associated Institution Types**

- 1890 Extension

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

Year	Actual
2015	158

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

**Issue (Who cares and Why)**

The dynamic population change that has taken place in Alabama represents new opportunities for food producers and marketers. Because consumer demand for ethnic foods is rising, farmers in Alabama, particularly small-scale and limited-resource farmers have tremendous opportunities to diversify, expand, and supply the growing demand for a number of multicultural foods such as goat and lamb. Therefore, to ensure that farmers own and operate efficient goat and sheep production enterprises, comprehensive educational products regarding forage resource management, identification of appropriate breeds, parasite control, record keeping, and performance evaluation and genetic improvement were needed.

**What has been done**

In an effort to help Alabama farmers to successfully own, operate and support goat and sheep farms and associated businesses, Animal Science specialists and agents from the UANNP Unit of ACES carried out an array of outreach activities and provided broadly-based and objective information that emphasized basic goat and sheep management, forage-based feeding system for year-round grazing, breed types best suited for the environmental and management conditions in Alabama, keeping records of individual performance of animals to rank animals with superior genetics, and parasite control strategies.

**Results**

Alabama A&M Extension Small-scale and limited-resource farmers raising sheep and goats in Alabama and neighboring states owned and operated successful farms by improving their efficiency of goat and lamb production. Four-hundred and seventy-four (474) post surveys indicated that 33.3% (158) of the respondents reported increases in production efficiency as a result of the educational activities and the information provided.

#### 4. Associated Knowledge Areas

KA Code	Knowledge Area
302	Nutrient Utilization in Animals

#### Outcome #35

##### 1. Outcome Measures

Number of small-scale and limited-resource farmers raising sheep and goats that observed improved herd health and well-being

##### 2. Associated Institution Types

- 1890 Extension

##### 3a. Outcome Type:

Change in Condition Outcome Measure

##### 3b. Quantitative Outcome

Year	Actual
2015	173

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

###### **Issue (Who cares and Why)**

Because consumer demand for ethnic foods is rising, farmers in Alabama, particularly small-scale and limited-resource farmers have tremendous opportunities to diversify, expand, and supply the growing demand for a number of multicultural foods such as goat and lamb. However, since goat and sheep are more susceptible to internal parasites than other livestock, and are the #1 health problem affecting small ruminants, integrated parasite control methods that decrease reliance on chemical dewormers have to be an important educational focus in Alabama. Therefore, to ensure that farmers use selective deworming to decrease reliance on chemical dewormers, comprehensive educational products that focus on the use of FAMACHA, fecal egg counts, and other integrated parasite control strategies were needed.

###### **What has been done**

In an effort to help Alabama farmers to combat the prevalence of gastrointestinal nematodes while decreasing reliance on chemical dewormers, Animal Science specialists and agents from the UANNP Unit of ACES carried out an array of outreach activities and provided broadly-based and objective information that emphasized the use of FAMACHA charts, fecal egg counts, other integrated parasite control strategies, and goat and sheep breed types and crosses that are resistant or resilient to gastrointestinal nematodes.

###### **Results**

Alabama A&M Extension Small-scale and limited-resource farmers raising sheep and goats in Alabama and neighboring states fought internal parasites in their animals by using several tools

that mitigated the effects of these parasites and enabled farmers to maintain the productivity and health of their livestock. Four-hundred and seventy-four (474) post surveys indicated that 36.5% (173) of the respondents reported improvements in sheep and goat health and well-being as a result of the educational activities and the information provided.

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
311	Animal Diseases

**Outcome #36**

**1. Outcome Measures**

Number of small-scale and limited-resource farmers raising sheep and goats that reported increased profitability rates ranging from 5 to 20%

**2. Associated Institution Types**

- 1890 Extension

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

Year	Actual
2015	141

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

**Issue (Who cares and Why)**

The dynamic population change that has taken place in Alabama represents new opportunities for food producers and marketers. Because consumer demand for ethnic foods is rising, farmers in Alabama, particularly small-scale and limited-resource farmers have tremendous opportunities to diversify, expand, and supply the growing demand for a number of multicultural foods such as goat and lamb. Therefore, to ensure that farmers own and operate profitable goat and sheep production enterprises, comprehensive educational products regarding forage resource management, identification of appropriate breeds, parasite control, record keeping, and performance evaluation and genetic improvement were needed.

**What has been done**

In an effort to help Alabama farmers to enhance their profitability and successfully support their goat and sheep farms and associated businesses, Animal Science specialists and agents from the UANNP Unit of ACES carried out an array of outreach activities and provided broadly-based and objective information that emphasized basic goat and sheep management, forage-based feeding system for year-round grazing, breed types best suited for the environmental and management conditions in Alabama, keeping records of individual performance of animals to rank animals with superior genetics, and parasite control strategies.

### Results

Alabama A&M Extension Small-scale and limited-resource farmers raising sheep and goats in Alabama and neighboring states owned and operated profitable farms by improving efficiency of production and herd health management. Four-hundred and seventy-four (474) post surveys indicated that 29.7% (141) of the respondents reported increases in profitability ranging from 5 to 20% as a result of the educational activities and the information provided.

#### 4. Associated Knowledge Areas

KA Code	Knowledge Area
302	Nutrient Utilization in Animals
311	Animal Diseases
601	Economics of Agricultural Production and Farm Management

#### Outcome #37

##### 1. Outcome Measures

The number of clientele that adopted recommended IPM practices.

##### 2. Associated Institution Types

- 1862 Extension

##### 3a. Outcome Type:

Change in Action Outcome Measure

##### 3b. Quantitative Outcome

Year	Actual
2015	89

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

###### Issue (Who cares and Why)

Commercial growers in the Horticulture industry are faced with biotic diseases, insects, and abiotic disorders every day. They do not have the proper knowledge or equipment to identify their plant diseases/disorders/insects. The Commercial Horticulture REAs and other Specialists are familiar with some disease, but not all. The AU Plant Diagnostic Lab is equipped to accurately identify the causal agent of diseases/disorders and provide IPM recommendations on a case-by-case basis.

###### What has been done

In addition to specific cases outlined below, the AU Diagnostic lab processed 2,812 routine samples for diagnosis/identification, not including survey sample. All samples were followed up with control (or prevention) recommendation on a case-by-case basis through face-to-face, written, or electronic communications. 15 presentations on diseases of concern in AL were



provided to educate growers, homeowners, extension personnel, and regulatory officials (first responders). In addition 15 pest alerts were provided to first responders through electronic communications, newsletters, and fact sheets.

**Results**

1% of Auburn Plant Diagnostic Lab clients are surveyed annually to determine if changes occurred in their IPM practices as a result of the diagnosis and recommendations provided by lab personnel.

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
102	Soil, Plant, Water, Nutrient Relationships
203	Plant Biological Efficiency and Abiotic Stresses Affecting Plants
205	Plant Management Systems
211	Insects, Mites, and Other Arthropods Affecting Plants
212	Pathogens and Nematodes Affecting Plants
216	Integrated Pest Management Systems

**Outcome #38**

**1. Outcome Measures**

\$ saved by grower clientele following Auburn Plant Diagnostic Lab recommendations.

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2015	82400

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

**Issue (Who cares and Why)**

Commercial growers in the Horticulture industry are faced with biotic diseases, insects, and abiotic disorders every day. They do not have the proper knowledge or equipment to identify their plant diseases/disorders/insects. The Commercial Horticulture REAs and other Specialists are familiar with some disease, but not all. The AU Plant Diagnostic Lab is equipped to accurately identify the causal agent of diseases/disorders and provide IPM recommendations on a case-by-case basis.

**What has been done**

Timely and accurate diagnoses are provided to growers dealing with disease/insect/plant disorders. Appropriate IPM recommendations can be provided once a pest has been identified. Growers can ultimately prevent economic yield loss from their diagnosis.

**Results**

During annual survey of 1% clientele, clients are also asked if IPM recommendations provided by lab personnel saved them \$ and how much. Success stories are provided from these specific growers, including savings of an estimated \$82,400 with the cooperative help of ACES REAs, Specialists, and Diagnostic Labs.

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
102	Soil, Plant, Water, Nutrient Relationships
203	Plant Biological Efficiency and Abiotic Stresses Affecting Plants
211	Insects, Mites, and Other Arthropods Affecting Plants
212	Pathogens and Nematodes Affecting Plants
216	Integrated Pest Management Systems

**Outcome #39**

**1. Outcome Measures**

Percent increase in understanding of nutrient management

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Knowledge Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2015	21

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

**Issue (Who cares and Why)**

Alabama has experienced significant growth in the poultry industry over the last five years. Currently, there are 782 large concentrated animal feeding operations (CAFO's). In 2015, 203 farms either began operation as a CAFO or were expansions of a current operation. These 782 farms alone may produce over 1.2 million tons of poultry litter that must be land applied correctly, utilizing the most current best management practices. These practices will ensure that water

quality is protected, to the extent possible, through the proper use of litter as a source of nutrients. Owners and operators of CAFO's are required to obtain 6 hours of continuing education units annually. In lieu of those hours, a grower can pay a \$500 Greenfield Fee, thus making an hour of training worth \$83.

**What has been done**

In 2015, growers earned 4308 hours of continuing education at 16 workshops, valued at \$357,564.

**Results**

Evaluation of the grower knowledge before and after the presentations/workshops indicate a 21% increase in their understanding of nutrient management.

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
102	Soil, Plant, Water, Nutrient Relationships

**Outcome #40**

**1. Outcome Measures**

Participant adoption rate of the information presented in next 12 months

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2015	95

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

**Issue (Who cares and Why)**

Alabama has experienced significant growth in the poultry industry over the last five years. Currently, there are 782 large concentrated animal feeding operations (CAFO's). In 2015, 203 farms either began operation as a CAFO or were expansions of a current operation. These 782 farms alone may produce over 1.2 million tons of poultry litter that must be land applied correctly, utilizing the most current best management practices. These practices will ensure that water quality is protected, to the extent possible, through the proper use of litter as a source of nutrients. Owners and operators of CAFO's are required to obtain 6 hours of continuing education units annually. In lieu of those hours, a grower can pay a \$500 Greenfield Fee, thus making an hour of training worth \$83.

**What has been done**

In 2015, growers earned 4308 hours of continuing education at 16 workshops, valued at \$357,564.

**Results**

Growers attending workshops and presentations in 2015 indicated on evaluations that 95% of those in attendance were likely to adopt some of the information presented in the next 12 months.

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
102	Soil, Plant, Water, Nutrient Relationships

**Outcome #41**

**1. Outcome Measures**

Economic impact of acres impacted as a result of best management practice adoption

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2015	357564

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

**Issue (Who cares and Why)**

Alabama has experienced significant growth in the poultry industry over the last five years. Currently, there are 782 large concentrated animal feeding operations (CAFO's). In 2015, 203 farms either began operation as a CAFO or were expansions of a current operation. These 782 farms alone may produce over 1.2 million tons of poultry litter that must be land applied correctly, utilizing the most current best management practices. These practices will ensure that water quality is protected, to the extent possible, through the proper use of litter as a source of nutrients. Owners and operators of CAFO's are required to obtain 6 hours of continuing education units annually. In lieu of those hours, a grower can pay a \$500 Greenfield Fee, thus making an hour of training worth \$83.

**What has been done**

In 2015, growers earned 4308 hours of continuing education at 16 workshops, valued at \$357,564.

**Results**

For growers attending workshops and presentations in 2015, an average of 172 acres per person will be more intensively managed and impacted. For the 4308 attendees, this equals 740,976 acres, valued at \$357,564.

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
102	Soil, Plant, Water, Nutrient Relationships

**Outcome #42**

**1. Outcome Measures**

The number of communities with access to innovative technology allowing them to grow fresh vegetables during the harsh wintry season, with only the "Greenhouse Effect" as a heat source.

**2. Associated Institution Types**

- 1890 Extension
- 1890 Research

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2015	7

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

**Issue (Who cares and Why)**

Growing fresh produce abundantly and economically, during the Fall/Winter/Spring seasons of the year has always proven to be a challenge in Alabama. Early plasticulture research conducted at Tuskegee University, aided in the development of the concept of building a simple wooden structure covered with clear plastic, and determine how effective it would be in growing fresh vegetables during the harsh wintry season, with only the "Greenhouse Effect" as a heat source. Because of the relatively small size (but intense management), this technology could prove not only its utility to the small farmer, but to communities ravaged by food deserts, new and beginning farmers needing to develop management skills, and schools looking for a living context within to teach STEM.

**What has been done**

Tunnel Houses were constructed in the following locations: Phoenix City & Hurtsboro Russell County, Dothan Houston County, Troy Pike County, Mt. Willing Lowndes County, Andalusia Covington County, and Athens Limestone County. Following the completion of these houses,

veterans, youth (middle and high school students, teens with legal problems and mental problems), and community organizations were instructed in the overall management of their units, and this is continued through

**Results**

Tuskegee Research and Extension -The tunnel house technology was developed and adopted at seven sites across Alabama. These seven communities now have access to innovative technology allowing them to be in growing "Greenhouse Effect" as a heat source.

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
205	Plant Management Systems
601	Economics of Agricultural Production and Farm Management

**Outcome #43**

**1. Outcome Measures**

Percentage increase in yield as a result of adoption of Agriplastic recommendations

**2. Associated Institution Types**

- 1890 Extension
- 1890 Research

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2015	22

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

**Issue (Who cares and Why)**

Growing fresh produce abundantly and economically, during the Fall/Winter/Spring seasons of the year has always proven to be a challenge in Alabama. Early plasticulture research conducted at Tuskegee University, aided in the development of the concept of building a simple wooden structure covered with clear plastic, and determine how effective it would be in growing fresh vegetables during the harsh wintry season, with only the "Greenhouse Effect" as a heat source. Because of the relatively small size (but intense management), this technology could prove not only its utility to the small farmer, but to communities ravaged by food deserts, new and beginning farmers needing to develop management skills, and schools looking for a living context within to teach STEM.

**What has been done**

For new and beginning farmers, monthly workshops were held at S&B farms for training in tunnel house and plasticulture programs and management. A demonstration site was designed for an experiment using a low cost fertilizer mix (inorganic + organic), versus organic and inorganic treatments. Squash, cucumbers, okra were grown in standardized conditions at the workshop site to demonstrate the efficacy of timing and fertilizer type on yield.

**Results**

Tuskegee Research and Extension Research results showed that the organic/inorganic fertilizer mix increased yield approximately an average of 22% more than inorganic, and 250% more than organic.

Participants of the monthly workshops, 12 participants received a graduation certificate verifying their participation in 75% or more of the workshops. One quarter of these participants have received EQIP assistance with high tunnels and/or wells and drip irrigation. An article was published in the Professional Agricultural Workers Journal, which demonstrated the enhancement provided by the low-cost organic/inorganic mix of fertilizer. Research results showed that the organic/inorganic fertilizer mix increased yield approximately an average of 22% more than inorganic, and 250% more than organic. Preliminary results have also shown the mixed fertilizer to stimulate more microbial activity in soil as well. Utilizing the methods described could potentially save small farmers wanting to produce ecologically sustainable practices.

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
205	Plant Management Systems
601	Economics of Agricultural Production and Farm Management

**Outcome #44**

**1. Outcome Measures**

Increase in pounds per production site as a result of tunnel house (agriplastic) adoption

**2. Associated Institution Types**

- 1890 Extension
- 1890 Research

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2015	1771

### 3c. Qualitative Outcome or Impact Statement

#### Issue (Who cares and Why)

Growing fresh produce abundantly and economically, during the Fall/Winter/Spring seasons of the year has always proven to be a challenge in Alabama. Early plasticulture research aided in the development of the concept of building a simple wooden structure covered with clear plastic, and determine how effective it would be in growing fresh vegetables during the harsh wintry season, with only the "Greenhouse Effect" as a heat source. Because of the relatively small size (but intense management), this technology could prove not only its utility to the small farmer, but to communities ravaged by food deserts, new and beginning farmers needing to develop management skills, and schools looking for a living context within to teach STEM.

#### What has been done

Tunnel Houses were constructed in the following locations: Phoenix City & Hurtsboro Russell County, Dothan Houston County, Troy Pike County, Mt. Willing Lowndes County, Andalusia Covington County, and Athens Limestone County. Following the completion of these houses, veterans, youth (middle and high school students, teens with legal problems and mental problems), and community organizations were instructed in the overall management of their units, and this is continued through follow up visits.

#### Results

Tuskegee Research and Extension Of those able to report their first season of production in high tunnel houses, school and community participants were able to produce an average of 1771 lbs of per production site.

### 4. Associated Knowledge Areas

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

#### Outcome #45

##### 1. Outcome Measures

Number of women, beginning and veteran farmers increasing their knowledge & skills in agribusiness, financial management and cooperative marketing:

##### 2. Associated Institution Types

- 1890 Research

##### 3a. Outcome Type:

Change in Knowledge Outcome Measure



### 3b. Quantitative Outcome

Year	Actual
2015	1500

### 3c. Qualitative Outcome or Impact Statement

#### Issue (Who cares and Why)

Beginning, Women, and veteran farmers face a variety of marketing, production, financial and legal challenges that impact their abilities to be sustainable, secure profitable markets and to work collaboratively. This project aims to enhance the capacity of this targeted group by engaging them in sustainable farming practices that are economically viable, environmentally sound and that will improve their overall quality of life.

#### What has been done

: Three hundred beginning, women and veteran farmers explored the benefits of collaborative marketing through participation in eight educational sessions. Through these sessions the participants received survival tips from successful cooperatives, gained insight on building the foundation for a successful cooperative, learned how to market on the edge by enhancing their negotiation tactics, record keeping, tax preparation etc. All sessions were conducted using interactive media, hands on activities, small/large group discussions and team building activities. A survey was administered at the conclusion of this training session. In addition, one on one interviews were also conducted.

#### Results

Tuskegee Research and Extension 100% of those responding indicated that they had gained valuable insight into the management and operation of cooperatives

### 4. Associated Knowledge Areas

KA Code	Knowledge Area
502	New and Improved Food Products
601	Economics of Agricultural Production and Farm Management

### Outcome #46

#### 1. Outcome Measures

Number or percentage of people who increase their knowledge of the benefits and resources available in agriculture for beginning, women and veteran farmers

#### 2. Associated Institution Types

- 1890 Extension
- 1890 Research

**3a. Outcome Type:**

Change in Knowledge Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2015	400

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

**Issue (Who cares and Why)**

Beginning, Women, and veteran farmers face a variety of marketing, production, financial and legal challenges that impact their abilities to be sustainable, secure profitable markets and to work collaboratively. This project aims to enhance the capacity of this targeted group by engaging them in sustainable farming practices that are economically viable, environmentally sound and that will improve their overall quality of life.

**What has been done**

Four hundred participants explored the field of agricultural and the benefits that are available through the Department of Veterans Affairs through participation in seventeen educational sessions at the Veterans Agriculture Training Informational Workshop and the Professional Agricultural Workers Conference. Through these sessions, the participants gained knowledge on the following topics: how to build a strong foundation for an agricultural business, creating your business brand, resources for veterans through the small business administration, selecting the right enterprise for your agricultural enterprise, farming on small acreage, USDA resources for farmers, container gardener demonstration, what is agribusiness, benefits through the Veterans Administration, housing assistance, and horticultural therapy. All sessions were conducted using interactive media, small/large group discussions and hand- on activities.

**Results**

Tuskegee Research and Extension

\*100 % of those responding to the evaluation indicated that they gained insight into important agricultural issues at the workshop

\*35 indicated that they would take action on what was learned at the workshop

\*100% of those responding indicated that the topics presented were relevant to them.

\*3 requests were made to conduct a similar workshop in the local community.

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
601	Economics of Agricultural Production and Farm Management

**Outcome #47**

**1. Outcome Measures**

Number or percentage of people who increase their skills in community gardening; as well as in the use of agriculture as a form of therapy.

**2. Associated Institution Types**

- 1890 Extension
- 1890 Research

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

Year	Actual
2015	0

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

**Issue (Who cares and Why)**

Beginning, Women, and veteran farmers face a variety of marketing, production, financial and legal challenges that impact their abilities to be sustainable, secure profitable markets and to work collaboratively. This project aims to enhance the capacity of this targeted group by engaging them in sustainable farming practices that are economically viable, environmentally sound and that will improve their overall quality of life.

**What has been done**

In 2015, The Veterans in Agriculture Program in collaboration with the Central Alabama Veterans Health Care System started, it's first Veteran Horticultural Therapy Project. Eight individual workshops were conducted, including classroom and hands on demonstration in community gardening.

**Results**

Tuskegee Research and Extension Of the changes measured as a result of participating in community gardens, 100% of respondents noted that they were likely to garden again in the future, were eating less fast food, and were donating food to other people. Over 150 people participated directly in the gardens and 980 were given produce from the gardens.

**4. Associated Knowledge Areas**

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

## **Outcome #48**

### **1. Outcome Measures**

The number of participants who increased knowledge regarding Sustainable agroforestry practices

### **2. Associated Institution Types**

- 1890 Extension
- 1890 Research

### **3a. Outcome Type:**

Change in Knowledge Outcome Measure

### **3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2015	181

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

#### **Issue (Who cares and Why)**

Agroforestry is a sustainable land-use system that involves an intentional integration and management of trees, crops, and/or livestock in a single management unit. This system offers diversified income opportunities, promotes sound environment, and creates appealing scenery, thereby promoting the sustainability of the whole system. Southeastern Region has a great potential for developing various agroforestry practices because of this region's suitable environment for growing all components of agroforestry systems. However, the adoption of agroforestry practices is currently negligible because of inadequate research and Extension education

#### **What has been done**

Agroforestry Training Curricula (handbook) was developed and five curricula-based regional training sessions conducted at different states of the Southeast (AL 3, NC 1, and FL 1). A silvopasture research and demonstration site was developed in Tuskegee and utilized for hands-on activities, demonstration, and site tour. A total of 181 trainees from different states in the Southeast participated in these sessions. Grant secured to strengthen the agroforestry research and extension education program. Technical assistance was provided continuously on as-needed basis to farmers and landowners (one-on-one meetings, farm visits, telephone, and email). Information on educational programs and materials were disseminated to clientele and the public through different media.

#### **Results**

Tuskegee Research and Extension -181 professionals, farmers, and landowner trainees increased their knowledge on various aspects of agroforestry by 23%. Participants learned different aspects of agroforestry practices: silvopasture, forest farming, alley cropping, tree management, soil management, windbreaks, riparian buffers, ecosystem services, grazing

management in silvopasture with proper animal care, economics of agroforestry, beekeeping, and mushroom production.

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
102	Soil, Plant, Water, Nutrient Relationships
123	Management and Sustainability of Forest Resources
125	Agroforestry
205	Plant Management Systems
213	Weeds Affecting Plants
302	Nutrient Utilization in Animals
311	Animal Diseases
502	New and Improved Food Products
601	Economics of Agricultural Production and Farm Management

**Outcome #49**

**1. Outcome Measures**

Number of land owners who applied adopted Sustainable agroforestry practices

**2. Associated Institution Types**

- 1890 Extension
- 1890 Research

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2015	2

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

**Issue (Who cares and Why)**

Agroforestry is a sustainable land-use system that involves an intentional integration and management of trees, crops, and/or livestock in a single management unit. This system offers diversified income opportunities, promotes sound environment, and creates appealing scenery, thereby promoting the sustainability of the whole system. Southeastern Region has a great potential for developing various agroforestry practices because of this region's suitable environment for growing all components of agroforestry systems. However, the adoption of agroforestry practices is currently negligible because of inadequate research and Extension

education.

**What has been done**

Agroforestry Training Curricula (handbook) was developed and five curricula-based regional training sessions conducted at different states of the Southeast (AL - 3, NC - 1, and FL - 1). A silvopasture research and demonstration site was developed in Tuskegee and utilized for hands-on activities, demonstration, and site tour. A total of 181 trainees from different states in the Southeast participated in these sessions. Grant secured to strengthen the agroforestry research and extension education program. Technical assistance provided continuously on as-needed basis to farmers and landowners (one-on-one meetings, farm visits, telephone, and email). Information regarding the educational programs and materials were disseminated to clientele and the public through different media.

**Results**

Tuskegee Research and Extension Two landowner trainees used the learned skills and knowledge to improve the existing silvopasture or develop a new silvopasture system by thinning down the existing woodland. Several other landowners expressed that they were considering adopting some type of agroforestry practices in the near future.

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
205	Plant Management Systems
213	Weeds Affecting Plants
302	Nutrient Utilization in Animals
601	Economics of Agricultural Production and Farm Management

**Outcome #50**

**1. Outcome Measures**

Increased Productivity and quality of cool-season forages grown in silvopasture evaluated

**2. Associated Institution Types**

- 1890 Extension
- 1890 Research

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
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**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

Silvopasture is one of the sustainable agroforestry practices. Pine silvopasture is common in the Southeast region. However, not much information is available on suitable forage species that can be grown in this system, especially for goats in the Southeast.

**What has been done**

Three cool-season grass species, four legumes, and one forb were planted in the newly developed silvopasture plots in a randomized block design in fall 2014. The productivity and quality of these forages were assessed in spring 2015

**Results**

Tuskegee Research and Extension Grass species produced higher than legume species. Rye produced the highest biomass per acre (3050 lb) followed by Marshall ryegrass (2400 lb) and chicory (1515 lb). Among the legumes, hairy vetch produced the highest (993 lb) followed by arrowleaf clover (879 lb) and crimson clover (406 lb). Hairy vetch contained the highest crude protein (20%) followed by white clover (18%) and arrowleaf clover (17%).

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
205	Plant Management Systems
213	Weeds Affecting Plants

**Outcome #51**

**1. Outcome Measures**

The number of trees impacted by debarking behavior of Kiko goats on fairly-grown southern-pine trees

**2. Associated Institution Types**

- 1890 Extension
- 1890 Research

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

Year	Actual

### 3c. Qualitative Outcome or Impact Statement

#### Issue (Who cares and Why)

Goats are commonly used for grazing in fenced woodlands or silvopastures in the Southeastern United States, where pines are the dominant tree species. It is generally recommended to begin grazing the pine-tree-incorporated grazing lands when their terminal buds are beyond the reach of grazing animals. Not much information is available on whether grazing animals would inflict any damage to pine trees after their terminal buds become inaccessible to grazing animals.

#### What has been done

The study was conducted at the Atkins Agroforestry Research and Demonstration site, Tuskegee University, Tuskegee, AL. Study plots consisted of mixed-pine (loblolly, *Pinus taeda* L., and longleaf, *Pinus palustris* Mill.) silvopastures with cool-season (3 plots, one acre each) and warm-season forages (3 plots, one acre each), and pine-hardwood mixed woodland (5 plots, one acre each). Pine trees were approximately 11 years old with tree density of  $147 \pm 21.1$  trees/acre (longleaf 52.14% and loblolly 47.86%). All study plots were rotationally grazed with 29 Kiko wethers (7-12 months old): silvopasture plots with cool-season forages during spring, and the silvopasture plots with warm-season forages and woodland plots in summer 2015. After the goats were moved out of each plot, trees were inspected for damage and the damaged portions were measured. The severity of damage was observed, measured, and recorded.

#### Results

Tuskegee Research and Extension A total of 131 trees were debarked, damage started from  $9.4 \pm 0.6$  inch from the base of the trees until the height of  $27.7 \pm 1.03$  inch from the initial damage point. Out of the total damaged tree, 92% was in silvopastures with cool-season forages, and 98% were longleaf pine. Around nine percent of the damaged trees were severely debarked. The greater tree damage was found in silvopastures with cool-season forages to that in silvopastures with warm-season forages and woodlands.

### 4. Associated Knowledge Areas

KA Code	Knowledge Area
205	Plant Management Systems

#### Outcome #52

##### 1. Outcome Measures

The number of Grazing behavior and distribution patterns of goats in southern-pine silvopastures studies

##### 2. Associated Institution Types

- 1890 Extension
- 1890 Research



### 3a. Outcome Type:

Change in Knowledge Outcome Measure

### 3b. Quantitative Outcome

Year	Actual
2015	1

### 3c. Qualitative Outcome or Impact Statement

#### Issue (Who cares and Why)

There is an increasing interest in developing pine silvopasture systems in the Southeast. Goats are one of the animal species commonly used in utilizing the understory vegetation in pine silvopasture systems. Understanding the grazing/browsing behavior and distribution patterns of goats is important for the proper management of goat-silvopasture systems.

#### What has been done

Thirty Kiko wethers (4-6 months old, body weight  $24.3 \pm 0.64$  kg) were rotationally stocked in the silvopasture plots, beginning early April 2015. Goats had free access to fresh water, mineral supplements, and shelters. After an adjustment period of two days, the diurnal grazing behavior (grazing, browsing, loafing, lying, and debarking) and distribution patterns of goats were monitored by an observer from dawn to dusk from an observation station using a binocular for two consecutive days in each replication. For data analysis, observation periods were divided into morning (dawn to 1100h), mid-day (1115h to 1500h), and afternoon (1515h to dusk).

#### Results

Tuskegee Research and Extension Time of the day showed a significant effect on goats behavior ( $p < 0.05$ ). Goats showed greater grazing behavior during mid-day and afternoon hours (40%), whereas loafing behavior was the highest (44%) in the morning. Goats also showed some debarking behavior (2%), mostly on longleaf pine (98%). Goats spent 37% of the diurnal time in areas near water, mineral supplement locations, and shelters followed by in areas with arrowleaf clover (10%).

### 4. Associated Knowledge Areas

KA Code	Knowledge Area
205	Plant Management Systems

### Outcome #53

#### 1. Outcome Measures

Number of people who increased knowledge in beef cattle management as a result of the Assisting Small Scale Beef Cattle Producers in the Black Belt Counties of Alabama program

#### 2. Associated Institution Types

- 1890 Extension
- 1890 Research

**3a. Outcome Type:**

Change in Knowledge Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2015	44

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

**Issue (Who cares and Why)**

There are a large number of cattle producers across the Black Belt Region of Alabama. Currently, prices are at an all-time high, but prices are dropping at local stockyard auctions in rural counties. There is a great need for beef cattle and forage management education and demonstrations to increase knowledge and skill of producers so that they can take advantage of the high cattle prices and make the cattle operation remain sustainable.

**What has been done**

Beef cattle management sessions were conducted and cattle farmers were demonstrated on how to deworm, vaccinate, determine age, and ear tag beef cattle. Farmers were made aware of the importance of pregnancy testing, proper calf management, and handling facilities to handle cattle safely with the least amount of stress. Field demonstrations and grazing workshops were conducted to educate the beef cattle producers on the importance of forage management needs (year-round pasture) and other important nutritional needs. Worked with local beef producers to help them increase overall knowledge and become more proficient cattle producers.

**Results**

Tuskegee Research and Extension 44 small scale beef producers gained knowledge on improving pastures and managing them well with sustainable grazing.

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
302	Nutrient Utilization in Animals
311	Animal Diseases

**Outcome #54**

**1. Outcome Measures**

Number of people who adopted recommendations for improving beef cattle management (Assisting Small Scale Beef Cattle Producers in the Black Belt Counties of Alabama)

**2. Associated Institution Types**

- 1890 Extension
- 1890 Research

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2015	20

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

**Issue (Who cares and Why)**

There are a large number of cattle producers across the Black Belt Region of Alabama. Currently, prices are at an all-time high, but prices are dropping at local stockyard auctions in rural counties. There is a great need for beef cattle and forage management education and demonstrations to increase knowledge and skill of producers so that they can take advantage of the high cattle prices and make the cattle operation remain sustainable.

**What has been done**

Beef cattle management sessions were conducted and cattle farmers were demonstrated on how to deworm, vaccinate, determine age, and ear tag beef cattle. Farmers were made aware of the importance of pregnancy testing, proper calf management, and handling facilities to handle cattle safely with the least amount of stress. Field demonstrations and grazing workshops were conducted to educate the beef cattle producers on the importance of forage management needs (year-round pasture) and other important nutritional needs. Worked with local beef producers to help them increase overall knowledge and become more proficient cattle producers.

**Results**

Tuskegee Research and Extension Twenty (20) beef cattle producers adopted improved forage management practices. Six beef cattle producers collected soil samples from pastures for the first time. Fourteen producers improved record keeping systems.

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
302	Nutrient Utilization in Animals
311	Animal Diseases

**Outcome #55**

**1. Outcome Measures**

The number of farmers who experienced increased weaning weight of calves because of pasture improvement recommendations made by the Assisting Small Scale Beef Cattle Producers in the Black Belt Counties of Alabama program

**2. Associated Institution Types**

- 1890 Extension
- 1890 Research

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2015	14

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

**Issue (Who cares and Why)**

There are a large number of cattle producers across the Black Belt Region of Alabama. Currently, prices are at an all-time high, but prices are dropping at local stockyard auctions in rural counties. There is a great need for beef cattle and forage management education and demonstrations to increase knowledge and skill of producers so that they can take advantage of the high cattle prices and make the cattle operation remain sustainable.

**What has been done**

Beef cattle management sessions were conducted and cattle farmers were demonstrated on how to deworm, vaccinate, determine age, and ear tag beef cattle. Farmers were made aware of the importance of pregnancy testing, proper calf management, and handling facilities to handle cattle safely with the least amount of stress. Field demonstrations and grazing workshops were conducted to educate the beef cattle producers on the importance of forage management needs (year-round pasture) and other important nutritional needs. Worked with local beef producers to help them increase overall knowledge and become more proficient cattle producers.

**Results**

Tuskegee Research and Extension 200 acres of hay fields and pasture land was renovated by beef producers because of their changed knowledge and action. Fourteen (14) farmers reported increased weaning weight as a result of improved pastures and grazing management, corrected

stocking rates, improved overall health management, and better genetics of both broods cows and bulls as result of selection and culling. Weaning weight of calves increased by 90+ lbs. on an average.

#### 4. Associated Knowledge Areas

KA Code	Knowledge Area
302	Nutrient Utilization in Animals
311	Animal Diseases

#### Outcome #56

##### 1. Outcome Measures

The reduction of fecal egg counts in goats based on Natural Dewormers for the Sustainable Management of Internal Parasites in Small Ruminants

##### 2. Associated Institution Types

- 1890 Extension
- 1890 Research

##### 3a. Outcome Type:

Change in Condition Outcome Measure

##### 3b. Quantitative Outcome

Year	Actual
2015	74

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

###### **Issue (Who cares and Why)**

Overuse of anthelmintic drugs promoted emergence of drug resistant gastrointestinal parasites that are dangerous in animal production, and public health. Alternative sustainable control strategies are necessary to have healthier animals and safer food.

###### **What has been done**

An experiment was conducted to evaluate pine-bark containing feeds as an alternative parasite control approach in meat goats on six different goat farms in Alabama. Sixty-six Kiko-cross female goats (BW: 32.3±3.7 kg) were fed either a commercially available goat diet (Noble goat grower or Purina Goat chow®) or a 30% pine bark (PB)-mixed diet. The PB-mixed diet contained 30% PB, 20% corn, 18% soybean meal, 4.5% soy hulls, 5% alfalfa meal, 7% molasses, 0.5% vitamins and mineral mix, and 15% Bermudagrass hay. Animals received 500 g (1.1 lb) DM of each supplemental diet in grazing conditions. Animals were not dewormed at least for 6 months before the experiment commenced. Animal body weight, FAMACHA score, and fecal samples were

taken at the beginning and end of the 50-day experiment. Fecal samples were analyzed for parasite egg present per gram of feces in order to determine the parasite load in each animal under each treatment.

**Results**

Tuskegee Research and Extension Goats on a pine bark diet had 74 percent lower fecal egg counts compared to control diets in a three-month trial. Pine bark diet reduced fecal egg counts (FEC) without detrimental effects on animal performance. There was no difference (P > 0.10) in body weight of animals fed different experimental diets. Pine bark diet reduced FEC without detrimental effects on animal performance.

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
302	Nutrient Utilization in Animals
311	Animal Diseases

**Outcome #57**

**1. Outcome Measures**

The number of farmers who increased knowledge of Sustainable year-round forage production and grazing/browsing management

**2. Associated Institution Types**

- 1890 Extension
- 1890 Research

**3a. Outcome Type:**

Change in Knowledge Outcome Measure

**3b. Quantitative Outcome**

Year	Actual
2015	109

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

**Issue (Who cares and Why)**

Surveys and farm visits revealed that most of the limited-resource livestock producers in Alabama have low productive pastures and those are not managed well. Developing productive pastures and managing them well are crucial for successful ruminant livestock enterprises.

**What has been done**

Six training sessions and field days were conducted by using the previously-developed curricula. Five demonstration sites developed in the previous years at different counties were improved and utilized for conducting hands-on training, demonstration, and site tour. The Browse Research and

Demonstration Site was used for conducting research and extension education on suitable browse species for goats. Technical assistance was provided continuously to livestock producers (one-on-one meetings, farm visits, telephone, and email). Articles, training materials, and information on educational events were disseminated through different media. Studies were conducted to find out suitable forages and browse for goats to develop year-round grazing system.

**Results**

Tuskegee Research and Extension 109 participants increased knowledge and skills in different aspects of pasture improvement and sustainable grazing management.

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
101	Appraisal of Soil Resources
111	Conservation and Efficient Use of Water
205	Plant Management Systems
213	Weeds Affecting Plants
302	Nutrient Utilization in Animals
311	Animal Diseases
601	Economics of Agricultural Production and Farm Management

**Outcome #58**

**1. Outcome Measures**

Number of farmers who adopted Sustainable Livestock Production through Year-Round Forage Production and Grazing/Browsing Management recommendations

**2. Associated Institution Types**

- 1890 Extension
- 1890 Research

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2015	15

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

### **Issue (Who cares and Why)**

Surveys and farm visits revealed that most of the limited-resource livestock producers in Alabama have low productive pastures and those are not managed well. Developing productive pastures and managing them well are crucial for successful ruminant livestock enterprises.

### **What has been done**

Six training sessions and field days were conducted by using the previously-developed curricula. Five demonstration sites developed in the previous years at different counties were improved and utilized for conducting hands-on training, demonstration, and site tour. A Browse Research and Demonstration Site was developed and used for conducting research and extension education on suitable browse species for goats. Technical assistance was provided continuously to livestock producers (one-on-one meetings, farm visits, telephone, and email). Articles, training materials, and information on educational events were disseminated through different media: blog, mail, email, webpage, Facebook, and Twitter. Studies were conducted to find out suitable forages and browse for goats to develop year-round grazing system.

### **Results**

Tuskegee Research and Extension 15 producer trainees (who were available to be surveyed and followed up) improved their pastures by doing soil test, applying required lime and fertilizers, and planting suitable forages in their pastures. Some of them started working with NRCS to acquire the possible support for improving their pastures and developing rotational grazing system.

## **4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
102	Soil, Plant, Water, Nutrient Relationships
111	Conservation and Efficient Use of Water
205	Plant Management Systems
213	Weeds Affecting Plants
302	Nutrient Utilization in Animals
311	Animal Diseases
601	Economics of Agricultural Production and Farm Management

### **Outcome #59**

#### **1. Outcome Measures**

The economic impact of Sustainable Livestock Production through Year-Round Forage Production and Grazing/Browsing Management on three producers

#### **2. Associated Institution Types**



- 1890 Extension
- 1890 Research

### 3a. Outcome Type:

Change in Condition Outcome Measure

### 3b. Quantitative Outcome

Year	Actual
2015	6480

### 3c. Qualitative Outcome or Impact Statement

#### Issue (Who cares and Why)

Surveys and farm visits revealed that most of the limited-resource livestock producers in Alabama have low productive pastures and those are not managed well. Developing productive pastures and managing them well are crucial for successful ruminant livestock enterprises.

#### What has been done

Six training sessions and field days were conducted by using the previously-developed curricula. Five demonstration sites developed in the previous years at different counties were improved and utilized for conducting hands-on training, demonstration, and site tour. A Browse Research and Demonstration Site was developed and used for conducting research and extension education on suitable browse species for goats. Technical assistance was provided continuously to livestock producers (one-on-one meetings, farm visits, telephone, and email). Articles, training materials, and information on educational events were disseminated through different media: blog, mail, email, webpage, Facebook, and Twitter. Studies were conducted to find out suitable forages and browse for goats to develop year-round grazing system.

#### Results

Tuskegee Research and Extension Case studies conducted with three producer trainees (trained in the previous years; 1 cattle producer and 2 goat producers) showed tremendous improvement in their conditions because of improved pastures and rotational grazing. The cattle farmer (with 40-50 heads of cattle herd) produced winter forages (1.5 ton/acre, crude protein (CP) 23.3%), and was able to reduce costs of production by \$4860.00 to \$6480.00 per year.

## 4. Associated Knowledge Areas

KA Code	Knowledge Area
102	Soil, Plant, Water, Nutrient Relationships
111	Conservation and Efficient Use of Water
205	Plant Management Systems
213	Weeds Affecting Plants
302	Nutrient Utilization in Animals

311	Animal Diseases
601	Economics of Agricultural Production and Farm Management

**Outcome #60**

**1. Outcome Measures**

The profit increased among 3 farmers as a result of Sustainable Livestock Production through Year-Round Forage Production and Grazing/Browsing Management recommendations

**2. Associated Institution Types**

- 1890 Extension
- 1890 Research

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

Year	Actual
2015	2844

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

**Issue (Who cares and Why)**

Surveys and farm visits revealed that most of the limited-resource livestock producers in Alabama have low productive pastures and those are not managed well. Developing productive pastures and managing them well are crucial for successful ruminant livestock enterprises.

**What has been done**

Six training sessions and field days were conducted by using the previously-developed curricula. Five demonstration sites developed in the previous years at different counties were improved and utilized for conducting hands-on training, demonstration, and site tour. A Browse Research and Demonstration Site was developed and used for conducting research and extension education on suitable browse species for goats. Technical assistance was provided continuously to livestock producers (one-on-one meetings, farm visits, telephone, and email). Articles, training materials, and information on educational events were disseminated through different media: blog, mail, email, webpage, Facebook, and Twitter. Studies were conducted to find out suitable forages and browse for goats to develop year-round grazing system.

**Results**

Tuskegee Research and Extension Goat producers (2) mentioned that they were able to save \$221.00 to \$237.00 per month by growing forages to feed their goat herd (35 to 40 head) during the winter time. Pasture productivity in these farms ranged from 1.8 to 3.9 ton/acre and forage quality was high (CP 13.4-17.0%) Additionally, other benefits included the lowered parasitic infestation by at least 70% and better performance of animals.

#### 4. Associated Knowledge Areas

KA Code	Knowledge Area
102	Soil, Plant, Water, Nutrient Relationships
111	Conservation and Efficient Use of Water
205	Plant Management Systems
213	Weeds Affecting Plants
302	Nutrient Utilization in Animals
311	Animal Diseases
601	Economics of Agricultural Production and Farm Management

#### Outcome #61

##### 1. Outcome Measures

The number of Cool-season forage species evaluated to expand the grazing opportunities for goats

##### 2. Associated Institution Types

- 1890 Extension
- 1890 Research

##### 3a. Outcome Type:

Change in Condition Outcome Measure

##### 3b. Quantitative Outcome

Year	Actual
2015	8

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

###### Issue (Who cares and Why)

Cool-season forage species evaluated to expand the grazing opportunities for goats

###### What has been done

Selected cool-season forage species planted in the mixed-pine silvopasture (longleaf, *Pinus palustris* Mill. and loblolly-pine, *Pinus taeda* L.) in Year 1 were evaluated and grazing study done. Productivity and quality of eight different cool-season forages: annual ryegrass, rye (*Secale cereale* L.), MaxQ tall fescue (*Schedonorus arundinaceus* Schreb.), arrowleaf clover (*Trifolium vesiculosum* Savi), crimson clover (*Trifolium incarnatum* L.), white clover (*Trifolium repens* L.), hairy vetch, *Vicia villosa* Roth), and chicory (*Chicorium* L.) grown in the mixed-pine silvopasture were measured.

###### Results

Tuskegee Research and Extension -Initial results of studies conducted on suitable forages for goats showed that several cool-season forages (tall fescue, annual ryegrass, rye, chicory, crimson clover, arrowleaf clover, white clover, hairy vetch) can be grown during cool season in the condition of Alabama for developing a year-round grazing system for goats.

#### 4. Associated Knowledge Areas

KA Code	Knowledge Area
302	Nutrient Utilization in Animals
311	Animal Diseases

#### Outcome #62

##### 1. Outcome Measures

The number of warm-season forage species evaluated to expand the grazing opportunities for goats

##### 2. Associated Institution Types

- 1890 Extension
- 1890 Research

##### 3a. Outcome Type:

Change in Condition Outcome Measure

##### 3b. Quantitative Outcome

Year	Actual
2015	5

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

###### **Issue (Who cares and Why)**

Surveys and farm visits revealed that most of the limited-resource livestock producers in Alabama have low productive pastures and those are not managed well. Developing productive pastures and managing them well are crucial for successful ruminant livestock enterprises.

###### **What has been done**

Four different forage species: sericea lespedeza (*Lespedeza cuneata* Dum. Cours.), bahiagrass (*Paspalum notatum* Flueggé), bermudagrass (*Cynodon dactylon* L.), and large crabgrass (*Digitaria sanguinalis* L.) were planted in these plots in a completely randomized block design with three replications. Browntop millet (*Panicum ramosum*) was used as a cover crop for these species. The productivity and quality of these forages were evaluated and grazed with goats in the summer of 2015.

### Results

Tuskegee Research and Extension Initial results indicate that warm-season forages (bahiagrass, crabgrass, browntop millet, sericea lespedeza) can be grown during warm season for developing a year-round grazing system for goats. Bermudagrass did not perform well.

### 4. Associated Knowledge Areas

KA Code	Knowledge Area
302	Nutrient Utilization in Animals
311	Animal Diseases

### Outcome #63

#### 1. Outcome Measures

The number of browse species evaluated to expand the grazing opportunities for goats and minimize the parasite problem

#### 2. Associated Institution Types

- 1890 Extension
- 1890 Research

#### 3a. Outcome Type:

Change in Condition Outcome Measure

#### 3b. Quantitative Outcome

Year	Actual
2015	4

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

##### Issue (Who cares and Why)

Small ruminant production is an important enterprise in Alabama, especially for the small scale limited resource producers. Poor feeding conditions and heavy infestation of internal parasites are posing a big challenge for the success of this enterprise. Browse species can play an important role in feeding small ruminants and minimizing internal parasite problems in these animals. However, not much is known about the cultivation and performance of browse species in the field condition.

##### What has been done

Four browse species: Mulberry (*Morus alba*), Bush Indigo (*Amorpha fruticosa*), Mimosa (*Albizia julibrissin*), and White Lead Tree (*Leucaena leucocephala*) were grown in the greenhouse and transplanted to the study plots at the Browse Research and Demonstration Site of Tuskegee

University, Tuskegee, AL in 2014. The survival rate and damage on the plants caused by wildlife in the field condition were assessed in fall 2015.

**Results**

Tuskegee Research and Extension Initial results on the performance of selected browse species (4) in the field condition showed the highest survival of bush indigo. Under the condition of greenhouse, white lead tree performed the best.

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
311	Animal Diseases
402	Engineering Systems and Equipment

**Outcome #64**

**1. Outcome Measures**

The number of woodland plant species Preferences determined for goats

**2. Associated Institution Types**

- 1890 Extension
- 1890 Research

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2015	37

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

**Issue (Who cares and Why)**

Different non-timber plant species voluntarily grown in the woodland and undesirable for the main forest product (timber) can provide a good grazing opportunity for small ruminants including goats. There is a need to identify woodland plant species that are readily eaten by goats.

**What has been done**

A study was conducted at the Tuskegee University Woodland Grazing Research and Demonstration Site during the summer (46 days) and fall (35) of 2015. Kiko wethers (29) were rotationally grazed in five fenced plots (one-acre each). At the end of the grazing, percentage of defoliation done by goats on each species that were within the reach of goats was assessed and categorized on a scale of 0 to 5 (0=no defoliation, 1=1-20% defoliation, 2=20-40% defoliation, 3=40-60% defoliation, 4=60-80% defoliation, and 5=80-100% defoliation). Then species were

classified into different preference scales (very high, high, medium, and low) based on the average defoliation.

**Results**

Out of the 37 species investigated, 13 were found scoring very high, 9 high, 5 medium, and 10 low on preference level for goats.

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
302	Nutrient Utilization in Animals
311	Animal Diseases

**Outcome #65**

**1. Outcome Measures**

The number of tissue-specific enhancers were isolated and validated for developing disease-resistant peanut variety

**2. Associated Institution Types**

- 1890 Extension
- 1890 Research

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2015	192

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

**Issue (Who cares and Why)**

Enhancers are important elements involved in gene expression. Identification of enhancers would facilitate us to understand the mechanism of gene expression. The disease resistance-linked markers would improve the efficiency of selection in plant breeding.

**What has been done**

1. Some enhancers were identified.
2. Peanut mapping population was planted and DNAs were isolated.

**Results**

Tuskegee Research and Extension 192 F8 lines were planted and harvested and 192 DNA samples were obtained. DNAs were isolated from the mapping population for genotyping later and resistance phenotype was recorded for the first year.

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
216	Integrated Pest Management Systems

**Outcome #66**

**1. Outcome Measures**

Number of trainees who increased knowledge of the major diseases and parasites of small ruminants and integrated approach for managing those problems

**2. Associated Institution Types**

- 1890 Extension
- 1890 Research

**3a. Outcome Type:**

Change in Knowledge Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2015	115

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

**Issue (Who cares and Why)**

Conventional method of parasite control by just using chemical de-wormer seems to be ineffective, especially to control the barber pole worm a most significant parasite causing a huge loss in small ruminant industry. For several reasons, this worm is developing resistance against most of the chemical dewormers. Now, it is the time to adopt an integrated approach for managing gastrointestinal parasites including barber pole worm. Moreover, external parasites, and infectious and other diseases play a crucial role in the health and well-being of small ruminants. Some of the diseases and parasites are also zoonotic (capable of affecting human). Producers and professionals must be aware of all these health problems and be able to prevent them on time.

**What has been done**

Six training sessions and field days were conducted in different locations of Alabama. Participants were also taken to woodland grazing, silvopasture, and pasture research plots and informed about the ongoing research work. Provided expert's service to the programs organized by other



University colleagues or collaborators from other institutions. Technical assistance provided continuously on as-needed basis to small ruminant producers (one-on-one meetings, farm visits, telephone, and email). Information on educational programs and materials were disseminated to clientele and the public through different media.

### Results

Tuskegee Research and Extension - All 115 participants demonstrated increased knowledge about the major diseases and parasites of small ruminants and integrated approach for managing those problems: use of FAMACHA, smart drenching, grazing management, nutrition and feeding, use of tannin-containing feeds and forages, and prevention, control, and treatment strategies. During the hands-on session, participants practiced using FAMACHA card to monitor the anemic condition in small ruminants, taking body condition score, measuring body temperature, inspecting hooves and trimming the overgrown hooves, collecting and examining the fecal samples to determine gastro-intestinal parasites.

## 4. Associated Knowledge Areas

KA Code	Knowledge Area
302	Nutrient Utilization in Animals
311	Animal Diseases

### Outcome #67

#### 1. Outcome Measures

Increased net returns for rearing broilers in a pastured poultry system

#### 2. Associated Institution Types

- 1890 Extension
- 1890 Research

#### 3a. Outcome Type:

Change in Condition Outcome Measure

#### 3b. Quantitative Outcome

Year	Actual
2015	5644

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

##### Issue (Who cares and Why)

Pastured poultry is also perceived as producing healthier meat products. The consumption of leguminous pasture was shown to have a positive effect on the fatty acid profile of chicken meat. The omega-6 to omega-3 fatty acid ratio (n-6/n-3 ratio) is beneficial from animals that consume grass. Moreover, the health benefits from pastured poultry products are thought to outweigh the

additional cost of raising birds. In fact, consumers are willing to pay premium prices for natural and organic meat thus, supporting a specialty market. Thus, the objective of this study was to determine the economic viability of rearing broilers in a pastured poultry system (PPS) versus a conventional poultry system (CPS). The significance of conducting such a study is the possible attractiveness of either system to the small and limited resource producer.

**What has been done**

Three hundred and sixty 1-day-old Cornish Rock male broiler chickens were utilized. One set of birds were raised indoors and the other placed in pens on pasture. Body weight and feed intake were collected weekly for 7 weeks. Blood samples were collected every two weeks for the evaluation of stress. The birds were slaughtered and carcass data (dressing percentage, nutrient composition), and stress data collected and statistically analyzed. In addition, the economic viability of rearing broilers in a pastured poultry system (PPS) versus a conventional poultry system (CPS) was assessed. Each of these systems was replicated three times with 60 birds per treatment in a study lasting seven weeks. Data were collected on costs of inputs, and others estimated.

**Results**

Tuskegee Research and Extension The results revealed that the mean net returns for PPS was \$56.44 and that for CPS was -\$92.02. The mean break-even price for PPS was \$10.89 and the mean breakeven price for CPS was \$11.87. Furthermore, the mean benefit/cost ratio for PPS was 1.103 and the mean benefit/cost ratio for CPS was 0.84. The paired t-test showed that the difference between these two means was significant.

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
302	Nutrient Utilization in Animals
311	Animal Diseases

**Outcome #68**

**1. Outcome Measures**

Number of farmers who enhanced or expanded operations as a result of The Small Farm Training, Technical Assistance and Education Program

**2. Associated Institution Types**

- 1890 Extension
- 1890 Research

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

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

**Issue (Who cares and Why)**

Limited resource, minority, underserved and socially disadvantaged farmers have had limited access to and success with traditional USDA programs, specifically programs dealing with grants and loans. Without these resources (for which they are eligible and often targeted to), these farmers have been unable to produce efficiently and/or expand their operations and increase their chances for financial success.

**What has been done**

The Small Farm Training, Technical Assistance and Education Program conducted 36 outreach workshops and training conferences (1,384 participants) and 561 one-on-one technical assistance and other follow-up sessions with socially disadvantaged farmers and ranchers interested in owning and operating farms and ranches. The project provided information on loan application and other farmer programs to all participants. Focus was on farm ownership, operating and housing loans, in addition to cost share programs.

**Results**

Tuskegee Research and Extension Twenty-three farmers successful secured funds to enhance and expand their farm operations as a result of The Small Farm Training, Technical Assistance and Education Program.

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
601	Economics of Agricultural Production and Farm Management

**Outcome #69**

**1. Outcome Measures**

Increase in amount of USDA funds secured through successful loan applications to operate family farm

**2. Associated Institution Types**

- 1890 Extension
- 1890 Research

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2015	1225000

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

**Issue (Who cares and Why)**

Limited resource, minority, underserved and socially disadvantaged farmers have had limited access to and success with traditional USDA programs, specifically programs dealing with grants and loans. Without these resources (for which they are eligible and often targeted to), these farmers have been unable to produce efficiently and/or expand their operations and increase their chances for financial success.

**What has been done**

The Small Farm Training, Technical Assistance and Education Program conducted 36 outreach workshops and training conferences (1,384 participants) and 561 one-on-one technical assistance and other follow-up sessions with socially disadvantaged farmers and ranchers interested in owning and operating farms and ranches. The project provided information on loan application and other farmer programs to all participants. Focus was on farm ownership, operating and housing loans, in addition to cost share programs.

**Results**

Tuskegee Research and Extension- 23 farmers successfully secured USDA loans totaling of \$1,225,000 as a result of technical assistance provided by The Small Farm Training, Technical Assistance and Education Program.

**4. Associated Knowledge Areas**

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

**Outcome #70**

**1. Outcome Measures**

The number of producers who are informed the best practices developed to sustain agricultural production

**2. Associated Institution Types**

- 1890 Extension
- 1890 Research

**3a. Outcome Type:**

Change in Knowledge Outcome Measure

**3b. Quantitative Outcome**

Year	Actual
2015	65

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

**Issue (Who cares and Why)**

Interest in locally and regionally grown food is increasing, and encouraging growth of local and regional producers will help revitalize rural economies. Many consumers believe such foods are safer and of better quality, yet recent recalls of products from small producers prove otherwise. Specifically, the project assesses current practices related to food production and safety among local and regional food producers; identifies best practices; and educates local and regional stakeholders through workshops and other means. In addition, the project assesses consumer perceptions on local and regional livestock and products.

**What has been done**

Sixty-five (65) producers participated in workshops on producers' roles in the food supply chain and Master Goat Farmer Certification; and 4 contacts that were included as part of farm visits to ascertain implementation of best practices.

**Results**

Tuskegee Research and Extension - Sixty-five (65 contacts) gained knowledge and skills in business planning, farm economics/record keeping, implementing market research, developing pricing strategies, pasture management, HACCP principles, and animal health.

-It is anticipated that at least 75% of 65 contacts (i.e., 49 contacts) will utilize information (knowledge and skills) acquired through participation in the workshop and one-on-one visits so as to change their behavior in running their operations, and consequently impact their incomes

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
601	Economics of Agricultural Production and Farm Management

**Outcome #71**

**1. Outcome Measures**

The number of Composition and quality of woodland browse species evaluated

**2. Associated Institution Types**

- 1890 Extension
- 1890 Research

**3a. Outcome Type:**

Change in Knowledge Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2015	22

### 3c. Qualitative Outcome or Impact Statement

#### Issue (Who cares and Why)

Different non-timber plant species voluntarily grown in the woodland and undesirable for the main forest product (timber) can provide a good grazing opportunity for small ruminants including goats. There is a need to identify the different plant species available in the woodland and evaluate their quality for animal feeding.

#### What has been done

An inventory of the 22 major plant species present in the study plots was prepared and the quality (CP, ADF, NDF, tannin) of those species evaluated.

#### Results

Tuskegee Research and Extension: Rubus, Water oak, Smilax, and Yaupons were the most abundant species (accounted for 50% of the total) that were accessible to grazing goats. Beautyberry, Dog fennel, Kudzu, Low Panic grass, and Persimmon had 12% or more crude protein. Honey suckle, Persimmon, Sparkle berry, Water oak, Willow oak, and Yaupon had more than 40% of acid detergent fiber (ADF). Black gum, Sumac, Wild plum had low ADF ( $\leq 20\%$ ).

### 4. Associated Knowledge Areas

KA Code	Knowledge Area
205	Plant Management Systems
213	Weeds Affecting Plants
302	Nutrient Utilization in Animals
311	Animal Diseases
601	Economics of Agricultural Production and Farm Management

### Outcome #72

#### 1. Outcome Measures

The number of woodland plant-species compositions examined before and after grazing with goats assessed

#### 2. Associated Institution Types

- 1890 Extension
- 1890 Research

#### 3a. Outcome Type:

Change in Knowledge Outcome Measure

#### 3b. Quantitative Outcome

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

### 3c. Qualitative Outcome or Impact Statement

#### Issue (Who cares and Why)

It is a common practice to graze fenced woodlands belonging to the livestock producers in the Southeast. However, there is not much information on how the plant-species are affected with woodland grazing.

#### What has been done

The study was conducted at the Tuskegee University Atkins Woodland Site during summer 2015 using three fenced plots (1-acre each). Plant-species composition was measured along the pre-established transects in each plot before and after grazing at three levels: ground, mid, and high. Immediately after the before-grazing observations were taken, each plot was grazed with 29 Kiko wethers (6-8 months old, 59±1.4 lb body weight) based on the available vegetation. After-grazing observations were taken immediately after the goats were removed from each plot.

#### Results

Tuskegee Research and Extension Grazing with goats showed a significant effect on plant species diversity at ground- and mid-level ( $p < 0.0001$ ), but not at the high level. The evenness indices for ground- and mid-level vegetation were decreased by 26% and 24% respectively after grazing.

### 4. Associated Knowledge Areas

KA Code	Knowledge Area
205	Plant Management Systems
213	Weeds Affecting Plants
601	Economics of Agricultural Production and Farm Management

#### Outcome #73

##### 1. Outcome Measures

The number of woodland plant species identified that are readily eaten by goats

##### 2. Associated Institution Types

- 1890 Extension
- 1890 Research

##### 3a. Outcome Type:

Change in Condition Outcome Measure

### 3b. Quantitative Outcome

Year	Actual
2015	37

### 3c. Qualitative Outcome or Impact Statement

#### Issue (Who cares and Why)

Different non-timber plant species voluntarily grown in the woodland and undesirable for the main forest product (timber) can provide a good grazing opportunity for small ruminants including goats. There is a need to identify woodland plant species that are readily eaten by goats.

#### What has been done

A study was conducted at the Tuskegee University Woodland Grazing Research and Demonstration Site during the summer (46 days) and fall (35) of 2015. Kiko wethers (29) were rotationally grazed in five fenced plots (one-acre each). At the end of the grazing, percentage of defoliation done by goats on each species that were within the reach of goats was assessed and categorized on a scale of 0 to 5 (0=no defoliation, 1=1-20% defoliation, 2=20-40% defoliation, 3=40-60% defoliation, 4=60-80% defoliation, and 5=80-100% defoliation). Then species were classified into different preference scales (very high, high, medium, and low) based on the average defoliation.

#### Results

Out of the 37 species investigated, 13 were found scoring very high, 9 high, 5 medium, and 10 low on preference level for goats.

### 4. Associated Knowledge Areas

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

#### Outcome #74

##### 1. Outcome Measures

The number of farmers who increased knowledge in utilizing woodland vegetation

##### 2. Associated Institution Types



- 1890 Extension
- 1890 Research

### 3a. Outcome Type:

Change in Knowledge Outcome Measure

### 3b. Quantitative Outcome

Year	Actual
2015	95

### 3c. Qualitative Outcome or Impact Statement

#### Issue (Who cares and Why)

Different non-timber plant species voluntarily grown in the woodland and undesirable for the main forest product (timber) can provide a good grazing opportunity for small ruminants including goats. There is a need for educating livestock producers, professionals, and landowners in utilizing these resources sustainably.

#### What has been done

Four on-site demonstration sessions were conducted and research outcomes were shared with the participants.

#### Results

95 farmers, landowners, and professionals participated in the events, and increased knowledge in utilizing woodland vegetation. They also learned about the NRCS EQUIP program for the possible support for implementing the woodland grazing.

### 4. Associated Knowledge Areas

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

### Outcome #75

#### 1. Outcome Measures

The number of participants increased knowledge and skills in different aspects of pasture improvement and sustainable grazing management.

#### 2. Associated Institution Types

- 1890 Extension
- 1890 Research

**3a. Outcome Type:**

Change in Knowledge Outcome Measure

**3b. Quantitative Outcome**

Year	Actual
2015	109

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

**Issue (Who cares and Why)**

Surveys and farm visits revealed that most of the limited-resource livestock producers in Alabama have low productive pastures and those are not managed well. Developing productive pastures and managing them well are crucial for successful ruminant livestock enterprises.

**What has been done**

Six training sessions and field days were conducted by using the previously-developed curricula. Five demonstration sites developed in the previous years at different counties were improved and utilized for conducting hands-on training, demonstration, and site tour. The Browse Research and Demonstration Site was used for conducting research and extension education on suitable browse species for goats. Technical assistance was provided continuously to livestock producers (one-on-one meetings, farm visits, telephone, and email). Articles, training materials, and information on educational events were disseminated through different media. Studies were conducted to find out suitable forages and browse for goats to develop year-round grazing system.

**Results**

Tuskegee Research and Extension- 109 participants increased knowledge and skills in different aspects of pasture improvement and sustainable grazing management.

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
101	Appraisal of Soil Resources
102	Soil, Plant, Water, Nutrient Relationships
205	Plant Management Systems
213	Weeds Affecting Plants
302	Nutrient Utilization in Animals
311	Animal Diseases
601	Economics of Agricultural Production and Farm Management

## V(H). Planned Program (External Factors)

### External factors which affected outcomes

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

### Brief Explanation

Although the majority of American farmers are still at the mercy of both economic factors and the weather, farmers may be reluctant toward adopting new animal husbandry practices or making changes in cropping decisions. Furthermore, to have a statewide comprehensive program, additional training activities focusing on small ruminant, meat rabbit, and pasture-raised chicken production must be made available to all interested individuals across Alabama. Therefore, it is imperative to increase participation of other Extension professionals and increase the number of integrated outreach educational activities, especially in Central and South Alabama

## V(I). Planned Program (Evaluation Studies)

### Evaluation Results

**HRT-** The value to the grower from the adoption of tolerance varieties is an additional 300 to 400 lb per acre higher lint cotton yields, which have a farm gate value of \$190 to \$270 per acre.

**Poultry Health and Management** If a poultry grower could save \$250 per house with an alternative bedding material, he/she would save \$1,000 per year in bedding costs. Even at a low 10% acceptance rate of these bedding sources, this would save Alabama broiler growers \$250,000 annually. Footpad irritation is an economic and animal welfare issue for the poultry industry. Improved housing conditions through improved programs in litter quality and litter treatment use may improve foot pad quality by five percent or more. The loss in income with foot pad irritation is \$1.10/lb. A million-bird-per-week broiler operation produces 250,000 lb of feet per week. A five percent improvement would allow for the sale of an additional 12,000 lb of feet worth \$13,750 per week per operation (there are 20 in Alabama).

**AEFSN-** based on 474 post survey : • 429 smallscale and limitedresource farmers gained knowledge of key production management practices for sheep and goats. • 158 smallscale and limitedresource farmers observed improved sheep and goat production efficiency. • 173 smallscale and limited resource farmers raising sheep and goats observed improved herd health and wellbeing. • 141 small scale and limited resource farmers raising sheep and goats reported increased profitability rates ranging from 5 to 20 percent.

**Small Ruminants Production-**The project increased the level of awareness about the

connections between food security, food production and processing, health, nutrition, education, poverty and sustainable livelihoods for key stakeholders in Northern Alabama. The project also resulted in increased knowledge and awareness of methodologies and practices used in establishing and sustaining a viable forage base in Northern Alabama. Stakeholders were also made aware of the need for new varieties of edible plants. The project also examined the availability of fruits and vegetables at various supermarkets and is examining strategies to increase consumer choice and intake of these healthy food items. **Disadvantaged Farmers-** A significant number of limited resource, socially disadvantaged, minority and undeserved farmers have gained greater access to USDA loan programs in the total amount of \$1,225,000 to operate their farms and increased access to USDA loan programs as shown by 23 successful loan applications.

**Sustainable Meat and Goat Production** -Sixty-five gained knowledge and skills in business planning, farm economics/record keeping, implementing market research, developing pricing strategies, pasture management, HACCP principles, and animal health. **Genetic Markers-** Peanut plants grew well and were harvested. The quality of the isolated DNAs was good. Tissue-specific enhancers were isolated and validated using the flower-dip transformation procedure. Peanut mapping population was planted and DNAs from a mapping population were extracted for genotyping later. Resistant phenotype was recorded in the first year.

## Key Items of Evaluation

**HRT-** The value to the grower from the adoption of tolerance varieties is an additional 300 to 400 lb per acre higher lint cotton yields, which have a farm gate value of \$190 to \$270 per acre.

**Poultry Health and Management-**If a poultry grower could save \$250 per house with an alternative bedding material, he/she would save \$1,000 per year in bedding costs. Even at a low 10% acceptance rate of these bedding sources, this would save Alabama broiler growers \$250,000 annually. Footpad irritation is an economic and animal welfare issue for the poultry industry. Improved housing conditions through improved programs in litter quality and litter treatment use may improve foot pad quality by five percent or more. The loss in income with foot pad irritation is \$1.10/lb. A million-bird-per-week broiler operation produces 250,000 lb of feet per week. A five percent improvement would allow for the sale of an additional 12,000 lb of feet worth \$13,750 per week per operation (there are 20 in Alabama).

**AEFSN-** based on 474 post survey s) were achieved:

- 429 small scale and limited resource farmers gained knowledge of key production management practices for sheep and goats.
- 158 small scale and limited resource farmers observed improved sheep and goat production efficiency.
- 173 small scale and limited resource farmers raising sheep and goats observed improved herd health and well being.
- 141 small scale and limited resource farmers raising sheep and goats reported increased profitability rates ranging from 5 to 20 percent.

### **Sustainable Livestock Production through Year-Round Forage Production and**

**Grazing/Browsing Management-** Case studies conducted with three producer trainees (1 cattle producer and 2 goat producers) showed tremendous improvement in their conditions because of improved pastures and rotational grazing. The cattle farmer was able to reduce costs of production by \$4,860.00 to \$6,480.00 per year. Two goat producers reported savings of \$221.00 to \$237.00 per month to feed their goat herd (35 to 40 head) during the winter time.

**Small Ruminants Production-**The project increased the level of awareness about the connections between food security, food production and processing, health, nutrition,

education, poverty and sustainable livelihoods for key stakeholders in Northern Alabama. The project also resulted in Increased knowledge and awareness of methodologies and practices used in establishing and sustaining a viable forage base in Northern Alabama. Stakeholders were also made aware of the need for new varieties of edible plants. The project also examined the availability of fruits and vegetables at various supermarkets and is examining strategies to increase consumer choice and intake of these healthy food items.

**Disadvantaged Farmers-** A significant number of limited resource, socially disadvantaged, minority and undeserved farmers have gained greater access to USDA loan programs in the total amount of \$1,225,000 to operate their farms and increased access to USDA loan programs as shown by 23 successful loan applications. These farmers were able to enhance or expand operations as a result of technical assistance provided.

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

**Program # 2**

**1. Name of the Planned Program**

Natural resource conservation and management, environmental sustainability, and climate change

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	0%	0%	5%	8%
111	Conservation and Efficient Use of Water	0%	25%	5%	5%
112	Watershed Protection and Management	5%	0%	5%	5%
122	Management and Control of Forest and Range Fires	5%	0%	5%	3%
123	Management and Sustainability of Forest Resources	5%	0%	5%	5%
125	Agroforestry	5%	25%	5%	10%
131	Alternative Uses of Land	5%	0%	5%	3%
132	Weather and Climate	5%	25%	5%	7%
133	Pollution Prevention and Mitigation	5%	0%	5%	5%
134	Outdoor Recreation	5%	0%	5%	5%
135	Aquatic and Terrestrial Wildlife	5%	0%	5%	5%
136	Conservation of Biological Diversity	5%	0%	5%	2%
201	Plant Genome, Genetics, and Genetic Mechanisms	5%	0%	5%	5%
203	Plant Biological Efficiency and Abiotic Stresses Affecting Plants	5%	0%	5%	5%
304	Animal Genome	5%	0%	5%	2%
402	Engineering Systems and Equipment	5%	0%	5%	5%
403	Waste Disposal, Recycling, and Reuse	10%	0%	5%	3%
601	Economics of Agricultural Production and Farm Management	5%	10%	5%	7%
610	Domestic Policy Analysis	10%	0%	5%	5%
903	Communication, Education, and Information Delivery	5%	15%	5%	5%
	<b>Total</b>	100%	100%	100%	100%

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

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

**Auburn University**

Year: 2015	Extension		Research	
	1862	1890	1862	1890
<b>Plan</b>	106.9	10.2	20.0	12.0
<b>Actual Paid</b>	37.5	0.0	81.0	0.0
<b>Actual Volunteer</b>	0.0	0.0	0.0	0.0

**Alabama A&M University**

Year: 2015	Extension		Research	
	1862	1890	1862	1890
<b>Plan</b>	106.9	10.2	20.0	12.0
<b>Actual Paid</b>	0.0	4.4	0.0	1.0
<b>Actual Volunteer</b>	0.0	0.0	0.0	0.0

**Tuskegee University**

Year: 2015	Extension		Research	
	1862	1890	1862	1890
<b>Plan</b>	106.9	10.2	20.0	12.0
<b>Actual Paid</b>	0.0	3.9	0.0	6.3
<b>Actual Volunteer</b>	0.0	0.0	0.0	0.0

**2. Institution Name:** Auburn University

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

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
1392230	0	1156814	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
988617	0	1159874	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
3896117	0	4276331	0

**2. Institution Name:** Alabama A&M University

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

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
0	325655	0	438202
1862 Matching	1890 Matching	1862 Matching	1890 Matching
0	325655	0	438202
1862 All Other	1890 All Other	1862 All Other	1890 All Other
0	675369	0	0

**2. Institution Name:** Tuskegee University

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

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
0	308511	0	614555
1862 Matching	1890 Matching	1862 Matching	1890 Matching
0	211570	0	540927
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 Ewaste Institute** offers education on the importance of properly managing electronic waste.

**Pond Management** -Educational activities, programs, and products were generated to inform pond owners and managers as well as the general public in the ecology and management of small impoundments (ponds) in Alabama and throughout the Southeast US.

**NRCM\_ A&M- Research** investigated coupling heat and water transfer in biochar amended soils, evaluating the impact of land management and climate on instream health of Limestone Bay Watershed, AL; soil climate and morphology of temporarily-saturated soils in N Alabama and A. Tennessee; bacterial community structure and biochemical transformation of phosphorus in poultry litter biochar-amended highly weathered soils; role of RNA (siRNA) and micro (miRNA) in regulating gene expressions in soybean under Aluminum and drought stress conditions; and modeled the impacts of climate change, population growth, and land use change on water availability in Tennessee River Basin.

**Rural Well Water**- This project targeted the increase in knowledge and change in practices surrounding well use and maintenance, rural water use and conservation, and environmental justice in order to better protect and enhance water resources within rural Alabama counties.

**Forestry Resources**- This program was executed to assist limited resource landowners in the sustainable management of their timber resource and provide underserved landowners with the knowledge needed to make informed decisions in managing their forest, wildlife and natural resources for profit and inheritance.



**Climate Change-** The Global Climate Change Impact Program used questionnaires to derive farmer knowledge on climate change

**AU Research Natural Resource Conservation and Management, Environmental Sustainability, and Climate** - Research was conducted to develop and maintain sustainable agricultural systems including energy, soil, water, and other resources. Conservation of resources is a major theme of the research conducted in this project. Issues such as water quality, measuring the effects of effects of climate change, management of invasive species, management of fisheries and wildlife, utilization of appropriate fertilizers on appropriate soils and crops, and develop restoration and best management practices for farming, natural resource conservation and overcoming environmental contamination.

**2. Brief description of the target audience**

**E-Waste** -Target audience includes youth, educators, volunteers, homeowners, business owners, citizens

**Pond owners**, pond managers, and general public.

**NRCM\_A&M-** Producers, industry leaders, policy-makers, citizens, and related federal agency personnel.

**Rural Well Water-** The target audience is underserved and/or limited resource landowners, students, and the general public within the Alabama Black Belt counties.

**Forestry Resources-** The target audience is underserved and/or limited resource non-industrial forest and agricultural landowners, students, and the general public.

**Climate Change** -The target audience is underserved and/or limited resource landowners, farmers, well owners, students, and the general public within the Alabama

**AU Research Natural Resource Conservation and Management, Environmental Sustainability, and Climate** -Researchers, students (K-12, undergraduates, and graduates), landscape industry, pest management industry, government agencies, government regulators, forest and watershed managers, and the general public.

**3. How was eXtension used?**

eXtension was not used in this program

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

**1. Standard output measures**

2015	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
<b>Actual</b>	90946	57335618	31163	0

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

**Patent Applications Submitted**

Year: 2015

Actual: 0

**Patents listed**

**3. Publications (Standard General Output Measure)**

**Number of Peer Reviewed Publications**

2015	Extension	Research	Total
Actual	33	50	83

**V(F). State Defined Outputs**

**Output Target**

**Output #1**

**Output Measure**

- Publications  
Not reporting on this Output for this Annual Report

**Output #2**

**Output Measure**

- Publications of peer-reviewed papers, workshops, and conference proceedings Dissertations and thesis by graduate students on the research. A number of graduate students trained. Enhanced curricula development for graduate and undergraduate studies in the areas of environmental and climate change, modeling, geospatial information systems Established environmental and climate base line conditions for assessing climate change impacts for various environmental and agricultural variables. Calibrated integrated hydrologic model running simulations from 1950 to 2050, to predict climate change impact on water resource (quantity and quality), vulnerability assessment and adaptation options. Calibrated DSSAT Crop model running simulations to help identify resilience of different crops to climate change and pest management. Development of climate database which will be used for by students, faculty and scientific community. Documents on Climate change adaptation strategies, awareness and education materials, tailored for local communities, landowners, HDFC and stakeholders within the ABBCS. Graded facilities and computing cluster at the Geospatial and Climate Change Center. Workshops on climate variability and change and natural resources management Website with research findings, for continued research and resource for climate change education and awareness delivery. Selected Climate Change Modules in K-12, fourth grades and High School, eighth grade, in science, environmental science, and social science curricula on the scientific exploration of global climate change with some of the best available teaching material. Rural well owners and homeowners will be exposed to a set of activities intended to improve the quality of their private water wells, and the use of energy in their homes, farms and other businesses. Underserved Black Belt area grade school students will be exposed to specific age appropriate educational activities designed to reinforce current classroom instructional curriculums on natural resource management. While targeting the youth, parents, volunteers and community leaders will also be provided necessary instructions in responsible environmental stewardship practices and principles, including information on climate change and sustainable energy.  
Not reporting on this Output for this Annual Report

**Output #3**

**Output Measure**

- The number Community Forestry workshops

<b>Year</b>	<b>Actual</b>
2015	34

**Output #4**

**Output Measure**

- Number of attendees participating in Community Forestry workshops (chainsaw safety inventory, arborist certification, CEU and management workshops)

<b>Year</b>	<b>Actual</b>
2015	923

**Output #5**

**Output Measure**

- The number of AU Research Natural Resources publications

<b>Year</b>	<b>Actual</b>
2015	39

**Output #6**

**Output Measure**

- Dissertations and thesis by AU graduate students on the research.

<b>Year</b>	<b>Actual</b>
2015	13

**Output #7**

**Output Measure**

- Publications of AU Research peer-reviewed papers, workshops, and conference proceedings

<b>Year</b>	<b>Actual</b>
2015	40

**Output #8**

**Output Measure**

- The number of Practical Equine Management Workshops for small acreage horse farm owners and managers.

<b>Year</b>	<b>Actual</b>
-------------	---------------

2015 45

**Output #9**

**Output Measure**

- High School coaches and others who manage fields will be trained in how to maintain safer fields more sustainably.

<b>Year</b>	<b>Actual</b>
2015	2015

**Output #10**

**Output Measure**

- The number of Best Management Practice for Sports Fields publications

<b>Year</b>	<b>Actual</b>
2015	2

**Output #11**

**Output Measure**

- Publications of Developing BMP for improved fruit crops sustainability workshops

<b>Year</b>	<b>Actual</b>
2015	4

**Output #12**

**Output Measure**

- The number of Dissertations and thesis by graduate students on Developing BMP for improved fruit crops sustainability research.

<b>Year</b>	<b>Actual</b>
2015	1

**Output #13**

**Output Measure**

- The number of BMP for improved fruit crops sustainability Publications

<b>Year</b>	<b>Actual</b>
2015	24

**Output #14**

**Output Measure**

- Wildlife: Enhancement and Damage: The number of workshops on climate variability and

change and natural resources management

<b>Year</b>	<b>Actual</b>
2015	92

**Output #15**

**Output Measure**

- Wildlife: Enhancement and Damage - Number of Landowner Assistance workshop

<b>Year</b>	<b>Actual</b>
2015	4

**Output #16**

**Output Measure**

- Number of participants in Landowner Assistance workshops conducted by the Wildlife: Enhancement and Damage team

<b>Year</b>	<b>Actual</b>
2015	188

**Output #17**

**Output Measure**

- Number of face-to-face contacts at Wildlife: Enhancement and Damage programs

<b>Year</b>	<b>Actual</b>
2015	11270

**Output #18**

**Output Measure**

- The number of Alabama Water Watch Workshops Conducted

<b>Year</b>	<b>Actual</b>
2015	110

**Output #19**

**Output Measure**

- Number of Alabama Water Watch volunteers

<b>Year</b>	<b>Actual</b>
2015	320

**Output #20**

**Output Measure**

- Number of participants in E-waste Institute face-to-face programs and activities.

<b>Year</b>	<b>Actual</b>
2015	403

**Output #21**

**Output Measure**

- Number of electronic recycling drives conducted for AAMU/ACES E-waste Institute

<b>Year</b>	<b>Actual</b>
2015	4

**Output #22**

**Output Measure**

- Number of Urban Environmental Science Education face-to-face programs and activities.

<b>Year</b>	<b>Actual</b>
2015	140

**Output #23**

**Output Measure**

- Number of participants in Urban Environmental Science Education programs and activities.

<b>Year</b>	<b>Actual</b>
2015	5286

**Output #24**

**Output Measure**

- Number of individuals participating in Alabama Urban Home\*A\*Syst face-to-face programs.

<b>Year</b>	<b>Actual</b>
2015	331

**Output #25**

**Output Measure**

- Number of webinars produced for Virtual Extension: Using Webinars and Social Media to deliver programs on managing fire ants and other home grounds, gardens, and home pests

<b>Year</b>	<b>Actual</b>
-------------	---------------

2015 10

**Output #26**

**Output Measure**

- The number of participants who watched the live webinar conducted for Virtual Extension: Using Webinars and Social Media to deliver programs on managing fire ants

<b>Year</b>	<b>Actual</b>
2015	703

**Output #27**

**Output Measure**

- Number of people who viewed recorded webinar conducted for Virtual Extension: Using Webinars and Social Media to deliver programs on managing fire ants

<b>Year</b>	<b>Actual</b>
2015	4446

**Output #28**

**Output Measure**

- Number of agents and specialists who participated in delivery of Virtual Extension: Using Webinars and Social Media to deliver programs on managing fire ants and other home grounds, gardens, and home pests

<b>Year</b>	<b>Actual</b>
2015	27

**Output #29**

**Output Measure**

- The number of fliers, eXtension postings used to advertise webinar for Virtual Extension: Using Webinars and Social Media to deliver programs on managing fire ants and other home grounds, gardens, and home pests

<b>Year</b>	<b>Actual</b>
2015	23

**Output #30**

**Output Measure**

- The number of Alabama Smart Yard workshop/demo program participants

<b>Year</b>	<b>Actual</b>
2015	4126

**Output #31**

**Output Measure**

- Number of Alabama Smart Yard fliers added to municipal utility bill mailing (Lee and Russell Co areas)

<b>Year</b>	<b>Actual</b>
2015	50000

**Output #32**

**Output Measure**

- Number of volunteers trained to teach Smart Yard principles in their communities

<b>Year</b>	<b>Actual</b>
2015	344

**Output #33**

**Output Measure**

- Number of Face-Face contacts at civic event outreach booths (Birmingham Home & Garden Show, and National Peanut Festival)

<b>Year</b>	<b>Actual</b>
2015	17899

**Output #34**

**Output Measure**

- Number of MG volunteers reporting service hours

<b>Year</b>	<b>Actual</b>
2015	1699

**Output #35**

**Output Measure**

- Number of contacts made by MG volunteers delivering educational outreach

<b>Year</b>	<b>Actual</b>
2015	864446

**Output #36**

**Output Measure**

- Dollar value of MG volunteers assisting with and delivering educational information from Extension



<b>Year</b>	<b>Actual</b>
2015	2155824

**Output #37**

**Output Measure**

- The number of MG Helpline clients helped with residential garden/landscape information

<b>Year</b>	<b>Actual</b>
2015	9208

**Output #38**

**Output Measure**

- Number of ACES contacts with MGs to maintain 2015 partnerships with 34 local MG groups

<b>Year</b>	<b>Actual</b>
2015	3711

**Output #39**

**Output Measure**

- The number of professionals attending shortleaf pine technical presentations

<b>Year</b>	<b>Actual</b>
2015	72

**Output #40**

**Output Measure**

- Number of landowners responding to marketing or participating in shortleaf pine events

<b>Year</b>	<b>Actual</b>
2015	430

**Output #41**

**Output Measure**

- Number of Urban Gardens and Sustainable Landscapes workshops to encourage adoption of rainwater harvesting systems

<b>Year</b>	<b>Actual</b>
2015	47

**Output #42**

**Output Measure**

- The number of Urban Gardens and Sustainable Landscapes workshops

<b>Year</b>	<b>Actual</b>
2015	181

**Output #43**

**Output Measure**

- The number of Urban Water Wheel Publications

<b>Year</b>	<b>Actual</b>
2015	1

**Output #44**

**Output Measure**

- Dissertations and thesis by graduate students on the Harmful Algal Blooms in the Southeast research.

<b>Year</b>	<b>Actual</b>
2015	1

**Output #45**

**Output Measure**

- The number of Social medial posts for Angler Education

<b>Year</b>	<b>Actual</b>
2015	55

**Output #46**

**Output Measure**

- Number of angler education events

<b>Year</b>	<b>Actual</b>
2015	7

**Output #47**

**Output Measure**

- The number of participants in Angler Education events

<b>Year</b>	<b>Actual</b>
2015	924

**Output #48**

**Output Measure**

- Number of pond management product and service supplier lists

<b>Year</b>	<b>Actual</b>
2015	11

**Output #49**

**Output Measure**

- Number of pond management videos and other digital products.

<b>Year</b>	<b>Actual</b>
2015	50

**Output #50**

**Output Measure**

- Number of individuals attending pond management workshops and events

<b>Year</b>	<b>Actual</b>
2015	1100

**Output #51**

**Output Measure**

- Number of pond management workshops and events

<b>Year</b>	<b>Actual</b>
2015	30

**Output #52**

**Output Measure**

- Number of Water Quality Education Program within Rural Black Belt Counties workshops

<b>Year</b>	<b>Actual</b>
2015	3

**Output #53**

**Output Measure**

- Number of Water Quality Education Program within Rural Black Belt Counties field days

<b>Year</b>	<b>Actual</b>
2015	2

**Output #54**

**Output Measure**

- Number of Water Quality Education Program within Rural Black Belt Counties University events

<b>Year</b>	<b>Actual</b>
2015	4

**Output #55**

**Output Measure**

- Number of established Water Quality Education Program within Rural Black Belt Counties demonstration sites

<b>Year</b>	<b>Actual</b>
2015	8

**Output #56**

**Output Measure**

- Number of Water Quality Education Program within Rural Black Belt Counties one-on-one consultations

<b>Year</b>	<b>Actual</b>
2015	15

**Output #57**

**Output Measure**

- Number of rural well owner and water resource participants

<b>Year</b>	<b>Actual</b>
2015	24

**Output #58**

**Output Measure**

- Number of college-age students reached through Water Quality Education Program within Rural Black Belt Counties

<b>Year</b>	<b>Actual</b>
2015	120

**Output #59**

**Output Measure**

- Number of college-age students trained in water quality testing for Water Quality Education Program within Rural Black Belt Counties

<b>Year</b>	<b>Actual</b>
2015	8

**Output #60**

**Output Measure**

- Number of Water Quality Education Program within Rural Black Belt Counties poster presentations

<b>Year</b>	<b>Actual</b>
2015	1

**Output #61**

**Output Measure**

- Number of enhanced curricula development for graduate and undergraduate studies in the areas of environmental and climate change, modeling, geospatial information systems

<b>Year</b>	<b>Actual</b>
2015	3

**Output #62**

**Output Measure**

- Number of responsible environmental stewardship activities conducted in the Black Belt

<b>Year</b>	<b>Actual</b>
2015	28

**Output #63**

**Output Measure**

- Number of Sustainable Management of Forest and Range Land within Black Belt Counties workshops

<b>Year</b>	<b>Actual</b>
2015	1

**Output #64**

**Output Measure**

- Number of Sustainable Management of Forest and Range Land within Black Belt Counties camps

<b>Year</b>	<b>Actual</b>
2015	4

**Output #65**

**Output Measure**

- Number of Sustainable Management of Forest and Range Land within Black Belt Counties Conferences

<b>Year</b>	<b>Actual</b>
2015	1

**Output #66**

**Output Measure**

- Number of Sustainable Management of Forest and Range Land within Black Belt Counties onsite advice

<b>Year</b>	<b>Actual</b>
2015	24

**V(G). State Defined Outcomes**

**V. State Defined Outcomes Table of Content**

O. No.	OUTCOME NAME
1	Reduced carbon footprint by adopting improved agricultural practices
2	Increased carbon sequestration by adoption of technologies and improved agricultural practices.
3	Identification of crop varieties and animal stocks that can adapt to a changing environment.
4	Increase profitability of pay-to-fish operations
5	Increase knowledge and awareness of cogongrass ecology and control
6	Increase knowledge and adoption of organic/naturally grown fruit and vegetable production practices
7	Increase poultry farmer knowledge of new housing and equipment changes and techniques
8	Increase awareness of spread of soybean rust and control measures
9	Increase knowledge of ways to successfully provide for farm succession methods
10	Increase knowledge of importance of forages in animal production systems and adoption of profitable forage production systems
11	Increase knowledge of horticultural practices for Master Gardener Interns
12	Sustain volunteer support from Master Gardeners
13	Adoption of rainwater collection systems for urban noncommercial garden
14	Increase awareness of water conservation
15	Increase number of acres of rainwater irrigated fruits and vegetables
16	Increase knowledge and understanding of environmental issues related to electronic waste management, storage and disposal
17	Enhance environmental awareness among urban, nontraditional, and underrepresented audiences in the areas of forestry, wildlife, and natural resource management

18	-knowledge increase local and state environment -how one's action affect the environment - increased knowledge of environmental sustainability -understand value of local involvement - increased knowledge of career choices related to environmental stewardship
19	Increased respect for citizenry, community, and environment; -increased frequency of sustainability behaviors; -increased community service related to environmental stewardship; -inform the policy process as it relates to environmental stewardship; -increased implementation of environmental stewardship management practices
20	Increased perception of self-empowerment - ability to make a difference; -increased capacity for planning organizing, problem solving, decision-making, and teamwork to address problems; -Increased leadership skills; -increased number of citizens practicing environmental stewardship leading to a cleaner, safer environment; -increased capacity to create innovative solutions for complex environmental problems; -increased environmental stewardship advocacy; - revenue generation attributed to improved environmental sustainability; -increased use of alternative, renewable sources of energy
21	Increase citizen awareness of best management practices for residential landscapes
22	Increase adoption of principles taught: IPM, rain barrels installed, pruning for plant health/aesthetics, proper use of garden chemicals, right plant - right place, identification of invasive exotic plants, environmentally sound production of livestock and poultry
23	Increased knowledge and awareness of household hazards and their impact on the environment and human health; -Increased adoption of environmentally friendly homesite BMPs; -Modified behavior towards homesite and residential land management;-Increased conservation of soil and water
24	Increased information about the impact of ENSO phases on row crops, fruits and vegetables
25	Alabama stakeholders trained/educated in climate variability and climate change topics
26	Alabama growers, extension agents and extension specialists trained in using agroclimatic decision support tools
27	Capacities strengthened for integrating climate change risks and opportunities into state and regional development assistance
28	Capacities strengthened to access and use resources effectively to reduce risks associated with climate variability and climate change
29	Capacities strengthened to understand and manage water or natural resources in the context of climate vulnerability
30	Identification of the most profitable row crops management practices by ENSO phase
31	Identification of adaptation strategies to reduce climate change impacts
32	Increased awareness of the impacts of climate on agricultural Production
33	Medium-term outcomes: The medium-term outcomes of the Climate Change Extension Program are: implementation of a new system of management practices for row crops and vegetables according to ENSO phase



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34	Improved agronomic management row crops and vegetables
35	Long-term outcomes: The long-term outcomes of the Climate Change Extension Program are: 1) increased profitability of Alabama growers
36	Improved soil conditions
37	Reduced environmental impacts
38	Competitive agronomic research, Extension and education system
39	Youth participants will acquire knowledge, skills and awareness regarding well head protection, point/non-point source pollution, environmental stewardship, conservation as well as, climate change and sustainable energy. Adult participants will incorporate skills/knowledge and change behavior related to: pollution prevention, management of water resources, litter disposal and waste management, conservation and recycling of natural resources and safe and effective use of fertilizers and pesticides. Awareness will be acquired in climate change and sustainable energy.
40	Percent increase in knowledge of workshop attendees participating in various community forestry programs in 2015.
41	Percentage of workers attending chainsaw safety who purchased safety equipment as a result of the training.
42	Number of newly certified arborists as a result of certification preparatory training.
43	Number of certified arborists able to retain Certified credentials as a result of continued education credits offered in 2016
44	Number of volunteers who increased knowledge of tree ID, tree risk assessment and forest measurements
45	Percentage of Chainsaw safety attendees who felt better prepared to safely operate a chainsaw
46	The economic impact of time trained volunteers spent conducting a tree inventory in Fairhope, AL.
47	The number of land and forest owners who increase knowledge of geospatial technologies.
48	The number of horse owner/manager who increase knowledge in new sustainable management of small acreage horse farms
49	The number of sports staff with increased knowledge of Best Management Practices for sports field maintenance
50	The number of sports staff who adopted Best Management Practice for Sports Fields
51	Percent of participants who increased knowledge of landowner assistance programs as a result of the Wildlife: Enhancement and Damage program

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52	The number of Alabama Water Watch volunteers who increased water monitoring skills
53	Number of cities that adopted stormwater best management practices as a result of Alabama Water Watch recommendations
54	Linear feet of streams enhanced or restored in Alabama by Alabama Water Watch
55	The number of Pounds per year of nitrogen reduced in Mill Creek as a result of Alabama Water Watch recommendations
56	The number of Pounds per year of phosphorus reduced in Mill Creek as a result of Alabama Water Watch recommendations
57	The number of pounds per year of sediment reduced from degrading Mill Creek as a result of Alabama Water Watch recommendations
58	The number of nursery and greenhouse growers who increased knowledge of best practices to handle new disease and insect pests
59	Quantity of e-waste (pounds) recycled by citizens practicing improved environmental stewardship leading to a cleaner, safer environment.
60	The number of Synergistic Efforts to Reduce Pharmaceuticals in the Environment (SerPIE) participants who increased knowledge of prescription drug abuse
61	The number of SerPIE participants who adopted at least 2 of the recommended pharmaceutical BMPs.
62	The number of Synergistic Efforts to Reduce Pharmaceuticals in the Environment (SerPIE) participants who achieved knowledge of ways to protect the environment from potential pharmaceutical contamination.
63	Number of youth that improved their knowledge of environmentally-related topics through the Urban Environmental Science Education Program.
64	Percentage of individuals who adopted environmentally friendly home site best management practices (BMPs) as a result of Alabama Urban Home*A*Syst
65	The number of Alabama Urban Home*A*Syst participants who have hazard free, securer homes
66	Number of participants that adopted Alabama Smart Yard principles
67	Number of participants who increased their knowledge of Smart Yard principles during Lunch & Learn programs
68	Number of volunteers with increased knowledge of principles IPM and pest ID
69	The TONS of food donated to local seniors to reduce food insecurity
70	Number of volunteers who adopted landscape best management practices

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71	Number of volunteers who adopted landscaping best management practices: efficient irrigation
72	Change in dollar value of beef heifers due to being bred to AI bulls
73	The number of producers who adopted artificial insemination into their management practices
74	Average Percent Change in participant knowledge by attending a Practical Ranch Management Workshop
75	Dollar value technical assistance provided to farmers about Synchronization and Timed artificial insemination
76	The acres of reef restored by oysters
77	Increase in the amount of oyster larvae to the estuarine system
78	Value of oyster reef restored includes ecological components
79	The number of participants who adopted water conservation recommendations: rainwater collection systems for urban noncommercial garden
80	The number of participants who increased knowledge of water conservation
81	The number of urban, nontraditional, and underrepresented participants with increased knowledge of environmental knowledge of Green Space development and Sustainable Landscaping practices
82	The number of urban, nontraditional, and underrepresented audiences who adopted Green Space and Sustainable Landscaping recommendations
83	Number of municipal drinking water systems that adopted water methods to reduce nuisance algae
84	Percentage of clients who adopted Recreational Fish Pond Management practices recommended through direct consultation.
85	The number of Water Quality Education Program within Rural Black Belt Counties with increased knowledge of water conservation
86	Number of wells with water quality issues corrected
87	The number of youth with increased knowledge regarding environmental stewardship as a result of Water Quality Education Program within Rural Black Belt Counties
88	The number of Black Belt youth with increased knowledge about the ethical and moral issues that are involved in nature resource conservation and economics of rural communities
89	The number of limited resource landowners with increased knowledge of forest management best practices

90	The number of limited resource youth with increased interest in forestry and natural resource careers
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**Outcome #1**

**1. Outcome Measures**

Reduced carbon footprint by adopting improved agricultural practices

Not Reporting on this Outcome Measure

**Outcome #2**

**1. Outcome Measures**

Increased carbon sequestration by adoption of technologies and improved agricultural practices.

Not Reporting on this Outcome Measure

**Outcome #3**

**1. Outcome Measures**

Identification of crop varieties and animal stocks that can adapt to a changing environment.

Not Reporting on this Outcome Measure

**Outcome #4**

**1. Outcome Measures**

Increase profitability of pay-to-fish operations

Not Reporting on this Outcome Measure

**Outcome #5**

**1. Outcome Measures**

Increase knowledge and awareness of cogongrass ecology and control

Not Reporting on this Outcome Measure

**Outcome #6**

**1. Outcome Measures**

Increase knowledge and adoption of organic/naturally grown fruit and vegetable production practices

Not Reporting on this Outcome Measure

**Outcome #7**

**1. Outcome Measures**

Increase poultry farmer knowledge of new housing and equipment changes and techniques

Not Reporting on this Outcome Measure

**Outcome #8**

**1. Outcome Measures**

Increase awareness of spread of soybean rust and control measures

Not Reporting on this Outcome Measure

**Outcome #9**

**1. Outcome Measures**

Increase knowledge of ways to successfully provide for farm succession methods

Not Reporting on this Outcome Measure

**Outcome #10**

**1. Outcome Measures**

Increase knowledge of importance of forages in animal production systems and adoption of profitable forage production systems

Not Reporting on this Outcome Measure

**Outcome #11**

**1. Outcome Measures**

Increase knowledge of horticultural practices for Master Gardener Interns

Not Reporting on this Outcome Measure

**Outcome #12**

**1. Outcome Measures**

Sustain volunteer support from Master Gardeners

Not Reporting on this Outcome Measure

**Outcome #13**

**1. Outcome Measures**

Adoption of rainwater collection systems for urban noncommercial garden

Not Reporting on this Outcome Measure

**Outcome #14**

**1. Outcome Measures**

Increase awareness of water conservation

Not Reporting on this Outcome Measure

**Outcome #15**

**1. Outcome Measures**

Increase number of acres of rainwater irrigated fruits and vegetables

Not Reporting on this Outcome Measure

### **Outcome #16**

#### **1. Outcome Measures**

Increase knowledge and understanding of environmental issues related to electronic waste management, storage and disposal

Not Reporting on this Outcome Measure

### **Outcome #17**

#### **1. Outcome Measures**

Enhance environmental awareness among urban, nontraditional, and underrepresented audiences in the areas of forestry, wildlife, and natural resource management

Not Reporting on this Outcome Measure

### **Outcome #18**

#### **1. Outcome Measures**

-knowledge increase local and state environment -how one's action affect the environment - increased knowledge of environmental sustainability -understand value of local involvement - increased knowledge of career choices related to environmental stewardship

Not Reporting on this Outcome Measure

### **Outcome #19**

#### **1. Outcome Measures**

Increased respect for citizenry, community, and environment; -increased frequency of sustainability behaviors; -increased community service related to environmental stewardship; -inform the policy process as it relates to environmental stewardship; -increased implementation of environmental stewardship management practices

Not Reporting on this Outcome Measure

### **Outcome #20**

#### **1. Outcome Measures**

Increased perception of self-empowerment - ability to make a difference; -increased capacity for planning organizing, problem solving, decision-making, and teamwork to address problems; - Increased leadership skills; -increased number of citizens practicing environmental stewardship leading to a cleaner, safer environment; -increased capacity to create innovative solutions for complex environmental problems; -increased environmental stewardship advocacy; - revenue generation attributed to improved environmental sustainability; -increased use of alternative, renewable sources of energy

Not Reporting on this Outcome Measure

**Outcome #21**

**1. Outcome Measures**

Increase citizen awareness of best management practices for residential landscapes

Not Reporting on this Outcome Measure

**Outcome #22**

**1. Outcome Measures**

Increase adoption of principles taught: IPM, rain barrels installed, pruning for plant health/aesthetics, proper use of garden chemicals, right plant - right place, identification of invasive exotic plants, environmentally sound production of livestock and poultry

Not Reporting on this Outcome Measure

**Outcome #23**

**1. Outcome Measures**

Increased knowledge and awareness of household hazards and their impact on the environment and human health; -Increased adoption of environmentally friendly homesite BMPs; -Modified behavior towards homesite and residential land management;-Increased conservation of soil and water

Not Reporting on this Outcome Measure

**Outcome #24**

**1. Outcome Measures**

Increased information about the impact of ENSO phases on row crops, fruits and vegetables

Not Reporting on this Outcome Measure

**Outcome #25**

**1. Outcome Measures**

Alabama stakeholders trained/educated in climate variability and climate change topics

Not Reporting on this Outcome Measure



**Outcome #26**

**1. Outcome Measures**

Alabama growers, extension agents and extension specialists trained in using agroclimatic decision support tools

Not Reporting on this Outcome Measure

**Outcome #27**

**1. Outcome Measures**

Capacities strengthened for integrating climate change risks and opportunities into state and regional development assistance

Not Reporting on this Outcome Measure

**Outcome #28**

**1. Outcome Measures**

Capacities strengthened to access and use resources effectively to reduce risks associated with climate variability and climate change

Not Reporting on this Outcome Measure

**Outcome #29**

**1. Outcome Measures**

Capacities strengthened to understand and manage water or natural resources in the context of climate vulnerability

Not Reporting on this Outcome Measure

**Outcome #30**

**1. Outcome Measures**

Identification of the most profitable row crops management practices by ENSO phase

Not Reporting on this Outcome Measure

**Outcome #31**

**1. Outcome Measures**

Identification of adaptation strategies to reduce climate change impacts

Not Reporting on this Outcome Measure

**Outcome #32**

**1. Outcome Measures**

Increased awareness of the impacts of climate on agricultural Production

**2. Associated Institution Types**

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

**3a. Outcome Type:**

Change in Knowledge Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2015	0

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

**Issue (Who cares and Why)**  
{No Data Entered}

**What has been done**  
{No Data Entered}

**Results**  
{No Data Entered}

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
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102	Soil, Plant, Water, Nutrient Relationships
132	Weather and Climate

**Outcome #33**

**1. Outcome Measures**

Medium-term outcomes: The medium-term outcomes of the Climate Change Extension Program are: implementation of a new system of management practices for row crops and vegetables according to ENSO phase

Not Reporting on this Outcome Measure

**Outcome #34**

**1. Outcome Measures**

Improved agronomic management row crops and vegetables

Not Reporting on this Outcome Measure

**Outcome #35**

**1. Outcome Measures**

Long-term outcomes: The long-term outcomes of the Climate Change Extension Program are: 1) increased profitability of Alabama growers

Not Reporting on this Outcome Measure

**Outcome #36**

**1. Outcome Measures**

Improved soil conditions

Not Reporting on this Outcome Measure

**Outcome #37**

**1. Outcome Measures**

Reduced environmental impacts

Not Reporting on this Outcome Measure

**Outcome #38**

**1. Outcome Measures**

Competitive agronomic research, Extension and education system

Not Reporting on this Outcome Measure

**Outcome #39**

**1. Outcome Measures**

Youth participants will acquire knowledge, skills and awareness regarding well head protection, point/non-point source pollution, environmental stewardship, conservation as well as, climate change and sustainable energy. Adult participants will incorporate skills/knowledge and change behavior related to: pollution prevention, management of water resources, litter disposal and waste management, conservation and recycling of natural resources and safe and effective use of fertilizers and pesticides. Awareness will be acquired in climate change and sustainable energy.

Not Reporting on this Outcome Measure

**Outcome #40**

**1. Outcome Measures**

Percent increase in knowledge of workshop attendees participating in various community forestry programs in 2015.

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Knowledge Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2015	96

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

**Issue (Who cares and Why)**

There is a need in Alabama to both raise the awareness and level of tree care of private citizens and municipal and professional tree workers. Trees improve our quality of life and health as well as improve energy conservation, sound mitigation, air quality, economic values of property and business. There is a need to ensure people are practicing proper tree care using the latest

scientific techniques to ensure our forests remain healthy, vigorously growing and safe for future generations.

**What has been done**

34 workshops were offered to various groups including professional tree care workers, community maintenance crews and private homeowners. Workshop topics ranged from tree selection, planting and maintenance to tree risk assessment to tree preservation to inventorying our community forest resources.

**Results**

Workshop attendees experienced a 96% change in knowledge on various community forestry topics while attending community forestry programs in 2015.

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
123	Management and Sustainability of Forest Resources

**Outcome #41**

**1. Outcome Measures**

Percentage of workers attending chainsaw safety who purchased safety equipment as a result of the training.

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

Year	Actual
2015	56

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

**Issue (Who cares and Why)**

The field of arboriculture is regarded as one of the most dangerous industries in the world. Most injuries are related to chainsaws which result in 36,000 injuries annually. 12% of workshop attendees had previously suffered a chainsaw injury.

**What has been done**

4 chainsaw safety workshops trained 96 municipal and commercial personnel.

**Results**

56% of attendees purchased personal protective equipment needed for safer chainsaw operation following the workshops.

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
123	Management and Sustainability of Forest Resources

**Outcome #42**

**1. Outcome Measures**

Number of newly certified arborists as a result of certification preparatory training.

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

Year	Actual
2015	6

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

**Issue (Who cares and Why)**

Alabama has low number of professionally certified arborists able to provide scientifically based tree care and techniques to clients. Certification in arboriculture ensures a higher standard of tree care.

**What has been done**

2 workshops aimed at preparing and educating tree workers with the scientific and technical knowledge necessary to become Certified Arborists. 36 tree workers attended in 2015 and 6 succeeded in becoming Certified Arborists.

**Results**

6 of 34 workshop attendees have taken and passed the International Society of Arboriculture exam and successfully become Certified Arborists in Alabama.

**4. Associated Knowledge Areas**

**KA Code**    **Knowledge Area**  
123            Management and Sustainability of Forest Resources

**Outcome #43**

**1. Outcome Measures**

Number of certified arborists able to retain Certified credentials as a result of continued education credits offered in 2016

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2015	43

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

**Issue (Who cares and Why)**

Certified Arborists must maintain 30 continuing educational credits every three years to retain the professional license and ensure they are current on the latest scientific and technical specs.

**What has been done**

34 community forestry workshops offered a total of 85 Continuing educational credits in arboriculture for professional arborists.

**Results**

The 34 workshops and the corresponding 85 CEUs have allowed 43 Certified Arborists in Alabama to maintain their certification and improve their knowledge on the latest techniques in arboriculture.

**4. Associated Knowledge Areas**

**KA Code**    **Knowledge Area**  
123            Management and Sustainability of Forest Resources

**Outcome #44**

**1. Outcome Measures**

Number of volunteers who increased knowledge of tree ID, tree risk assessment and forest measurements

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Knowledge Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2015	25

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

**Issue (Who cares and Why)**

The majority of cities in Alabama do not have inventories of their tree populations. To improve community forest management inventories are needed for proactive decision making and managing for healthier and more resilient community forests.

**What has been done**

11 tree inventory trainings trained 25 volunteers to conduct two community tree inventories. Volunteers collected a total of sample 182 plots over a four month period.

**Results**

trained volunteers spent a total of 5175 hours being trained then conducting a tree inventory in Fairhope, Alabama. The inventory resulted with not only volunteers that are trained and knowledgeable in tree ID, tree risk assessment and forest measurements but also able to help communities conduct future inventories.

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
123	Management and Sustainability of Forest Resources



**Outcome #45**

**1. Outcome Measures**

Percentage of Chainsaw safety attendees who felt better prepared to safely operate a chainsaw

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Knowledge Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2015	96

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

**Issue (Who cares and Why)**

The field of arboriculture is regarded as one of the most dangerous industries in the world. Most injuries are related to chainsaws which result in 36,000 injuries annually. 12% of workshop attendees had previously suffered a chainsaw injury.

**What has been done**

4 chainsaw safety workshops trained 96 municipal and commercial personnel.

**Results**

96% of chainsaw safety attendees felt they were better prepared to operate chainsaws safely in the future.

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
123	Management and Sustainability of Forest Resources

**Outcome #46**

**1. Outcome Measures**

The economic impact of time trained volunteers spent conducting a tree inventory in Fairhope, AL.

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2015	113850

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

**Issue (Who cares and Why)**

The majority of cities in Alabama do not have inventories of their tree populations. To improve community forest management inventories are needed for proactive decision making and managing for healthier and more resilient community forests.

**What has been done**

11 tree inventory trainings trained 25 volunteers to conduct a tree inventories. These same volunteers then successfully conducted one entire tree inventories composed of 182 sample plots for the City of Fairhope.

**Results**

Volunteers spent over 4 months conducting a community forestry tree inventory in Fairhope Alabama. Their volunteer time helping the city gain information about the ecological and economic value of their trees is valued at \$113,850.

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
123	Management and Sustainability of Forest Resources

**Outcome #47**

**1. Outcome Measures**

The number of land and forest owners who increase knowledge of geospatial technologies.

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Knowledge Outcome Measure

**3b. Quantitative Outcome**

Year	Actual
2015	0

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

**Issue (Who cares and Why)**

Geospatial technologies are critical to the sustainability of land and forests.

**What has been done**

One workshop titled, GPS 101: Technology for Better Land Management was held in Covington county. Total attendance for the workshop was eighteen. Participants of the GPS 101 workshop completed change in knowledge tests and evaluations. The workshop was conducted from 11 A.M. to 5 P.M.

The workshops included presentations, global positioning system (GPS) exercises and geographic information system (GIS) software training on laptop computers. GPS exercises consisted of hands-on training on the use of GPS systems and on typical data collection tasks, including waypoint collection and area calculation.

GIS software exercises consisted of hands-on training on low-cost GIS software, including GPS data import and analysis and map creation and editing.

**Results**

A change in knowledge was measured using pre- and post-workshop tests. The test consisted of eleven questions on basic geospatial topics. Attendees showed an increase of thirty-one percentage points on pre- to post-workshop tests. In addition, participants were surveyed on the usefulness of the hands-on GPS and GIS training and were asked to list any recommended changes.

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
123	Management and Sustainability of Forest Resources

**Outcome #48**

**1. Outcome Measures**

The number of horse owner/manager who increase knowledge in new sustainable management of small acreage horse farms

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Knowledge Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2015	45

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

**Issue (Who cares and Why)**

1) To have more efficient, sustainable and cost-effective Alabama small-acreage horse farms based off of agronomic education learned at the workshop. 2) To shift to more advanced agronomic educational concepts in future programs based off of knowledge learned at this basic workshop

**What has been done**

A one-day workshop was conducted in a hands-on and interactive manner using 8, 27 minute stations plus a final presentation at the end (6 hours of instruction). Topics taught in this 1-day workshop included: forage analysis interpretation; herbicide use; soil fertility; weed identification; body condition scoring; topline evaluations; first aid; and fecal egg counts.

**Results**

5 point likert-type scale:

Determine body condition scores - 4.2

Evaluate toplines -4.5

Take a fecal sample and perform a fecal egg count for targeted parasite control -4.2

Determine biosecurity protocol for your farm - 4.5

Determine proper vaccination protocol for your farm - 4.2

Take a soil sample and interpret a soil test - 4.3

Take a forage sample and interpret a forage quality report - 4.5

Sprayer calibration - 4.5

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
601	Economics of Agricultural Production and Farm Management

**Outcome #49**

**1. Outcome Measures**

The number of sports staff with increased knowledge of Best Management Practices for sports field maintenance

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Knowledge Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2015	2015

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

**Issue (Who cares and Why)**

Alabama coaches can better maintain their fields thanks to training from ACES specialist and agents. They know when to fertilize, how to control the most common weeds and the best management practices for mowing and irrigation. This helps them to give their students safe and playable fields. Additionally, the participants in this program are now aware of and utilizing ACES resources for help via phone calls, email and text.

**What has been done**

The four seminars were the foundation events. Also, coaches are now following up by contacting agents and specialists, who are providing ongoing consultation services.

**Results**

Participants were able to identify common weeds encountered on sports fields, and name their life cycles.

Participants were able to list pre and post emergence herbicide options and also to determine the proper timing of applications.

Participants were able to time irrigation cycles for more efficient use of water

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
134	Outdoor Recreation

**Outcome #50**

**1. Outcome Measures**

The number of sports staff who adopted Best Management Practice for Sports Fields

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

Year	Actual
2015	2015

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

**Issue (Who cares and Why)**

Alabama coaches can better maintain their fields thanks to training from ACES specialist and agents. They know when to fertilize, how to control the most common weeds and the best management practices for mowing and irrigation. This helps them to give their students safe and playable fields. Additionally, the participants in this program are now aware of and utilizing ACES resources for help via phone calls, email and text.

**What has been done**

The four seminars were the foundation events. Also, coaches are now following up by contacting agents and specialists, who are providing ongoing consultation services.

**Results**

Participants used more preemergence herbicides for weed control.  
Schools conducted irrigation audits and replaced/eliminated defective or unnecessary heads.  
Participants switched to baits for fire ant controls on fields, saving money.

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
134	Outdoor Recreation

## **Outcome #51**

### **1. Outcome Measures**

Percent of participants who increased knowledge of landowner assistance programs as a result of the Wildlife: Enhancement and Damage program

### **2. Associated Institution Types**

- 1862 Extension

### **3a. Outcome Type:**

Change in Knowledge Outcome Measure

### **3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2015	100

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

#### **Issue (Who cares and Why)**

Hundreds of thousands of Alabamians enjoy recreational activities that involve the wildlife resource. For example, both birdwatching and deer hunting generate several million dollars of revenue to the state's economy. In addition, these individuals enjoy leisure time outdoors and gain many health benefits. In contrast, an equally large number of Alabamians suffer from a loss of quality of life as a result of negative encounters with wildlife. Education efforts by the Wildlife team sought to increase the positive values of all wildlife by reducing the negative values.

#### **What has been done**

Wildlife: Enhancement and Damage team members participated in 4 regional workshops designed to provide natural resource managers with information about Landowner Assistance programs available in the state. Prior to the workshops, each speaker was asked to provide input as to what they wanted the "Take Home" message to be from their presentation, and this information was used to develop a knowledge instrument. At the close of each workshop, participants were asked to complete the knowledge instrument. Scores on the knowledge test were all very high. Respondents from all 4 workshops had knowledge of the Environmental Quality Incentives Program (EQIP), appropriate pine species, and allowable site preparation techniques, the roles of various natural resource management groups within the state, and the importance of meeting with landowners to establish management objectives.

#### **Results**

Wildlife: Enhancement and Damage As a result of attending a program or viewing/ reading materials produced by Wildlife: Enhancement and Damage team members, clients in Alabama and abroad gained knowledge to enhance their enjoyment of natural resources. This was done either by increasing their knowledge of the positive values of wildlife or reducing the negative values of wildlife that are in conflict with humans.

#### 4. Associated Knowledge Areas

KA Code	Knowledge Area
123	Management and Sustainability of Forest Resources

#### Outcome #52

##### 1. Outcome Measures

The number of Alabama Water Watch volunteers who increased water monitoring skills

##### 2. Associated Institution Types

- 1862 Extension

##### 3a. Outcome Type:

Change in Action Outcome Measure

##### 3b. Quantitative Outcome

Year	Actual
2015	320

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

###### **Issue (Who cares and Why)**

Water quality degradation is caused by nonpoint source pollution that originates from poor land management. Introducing citizens to their role in understanding and improving water resources through increased knowledge of "healthy" stream conditions assists in setting restoration priorities and accurately targeting watershed management practice implementation.

###### **What has been done**

AWW conducted 110 training sessions (thirty-eight water chemistry workshops, twenty-three bacteriological workshops, three Exploring Alabama's Living Streams workshops, twenty-eight recertification sessions, two trainer refresher workshop, two training-of-trainers, and thirteen trainer intern trainings) in 2015 certifying 694 volunteer monitors and trainers. AWW-certified citizen trainers conducted about 70% of the workshops (see cumulative statistics, since 1992, in table below). Monitor groups included public school groups, lake homeowner-boat owner groups, retiree groups, lake stakeholder groups, stream/river stakeholder groups, bay/estuary stakeholder groups, 4-H youth groups, FFA groups, conservation groups, university student groups, and professional groups.

###### **Results**

320 Alabama citizens increased watershed management practice implementation skills and are actively monitoring water quality on streams, lakes, or bays.

#### 4. Associated Knowledge Areas



**KA Code**    **Knowledge Area**  
112            Watershed Protection and Management

**Outcome #53**

**1. Outcome Measures**

Number of cities that adopted stormwater best management practices as a result of Alabama Water Watch recommendations

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2015	3

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

**Issue (Who cares and Why)**

Poor management of stormwater and soil has contributed to the degradation of Alabama's surface waters. Innovative stormwater management techniques such as "Low Impact Development" (LID) improve the quality of runoff and decrease the volume of runoff that results in improved local stream, river, lake and bay health. Because these practices are somewhat new, there is hesitation to invest in the implementation of LID.

**What has been done**

Stormwater and watershed restoration demonstration projects have been implemented to build local capacity and improve water quality. Demonstration projects implemented in 2015 include: constructed stormwater wetland (Phenix City Intermediate School), rain garden and rainwater cistern (Lakewood Elementary School, Phenix City), Cahaba River stream restoration\* (Trussville, AL, 3,000 linear feet), Mill Creek (Phenix City, AL, 300 linear feet), and Parkerson Mill Creek Turf Unit\* (Auburn, AL, 250 linear feet). \* indicates ACES Water Program was invited partner.

**Results**

1) Auburn, Alabama: Because of past partnerships implementing demonstration stream projects, the City of Auburn moved forward with a stream enhancement project using innovative channel design elements to protect an exposed sewer line.

2) Phenix City, Alabama: Implemented watershed best management practices in support of a Section 319 grant from the Alabama Department of Environmental Management. These practices include a constructed stormwater wetland, rain garden, and stream enhancement projects.

3) Daphne, Alabama: Implemented watershed best management practices using guidelines from the Alabama Low Impact Development Handbook and in partnership with Alabama Cooperative Extension System. ACES provided recommendations on vegetation for stream restoration and supported education efforts (Christian Miller, AUMERC)

#### 4. Associated Knowledge Areas

KA Code	Knowledge Area
112	Watershed Protection and Management

#### Outcome #54

##### 1. Outcome Measures

Linear feet of streams enhanced or restored in Alabama by Alabama Water Watch

##### 2. Associated Institution Types

- 1862 Extension

##### 3a. Outcome Type:

Change in Condition Outcome Measure

##### 3b. Quantitative Outcome

Year	Actual
2015	4190

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

###### **Issue (Who cares and Why)**

Improving water resources through enhancement or restoration of streams includes approaching stream degradation from a systems approach:

- 1) Understand the causes of instability or degradation
- 2) Recommend innovative methods to address the cause of the problem while incorporating other goals such as improved ecology, infrastructure protection, decreasing loss of land to erosion, and aesthetics.
- 3) Use demonstration projects to share lessons learned and promote wise stewardship of water resources

###### **What has been done**

Stream enhancement or restoration projects have been implemented that use natural channel design techniques. These techniques are sometimes referred to as 'green' engineering and have common components of:

- 1) stream channel design to accommodate low and high flows, maximize floodplain access

- 2) incorporating in-stream structures to resist or redirect erosive flows
- 3) plant native vegetation for long-term stability, habitat, and other ecological functions

**Results**

The ACES Water Program assisted with the enhancement or restoration of over 4,000 linear feet of streams in Alabama in 2015.

- Mill Creek at Broad Street (Phenix City) 700 lf
- Mill Creek at Crawford Street (Phenix City) 90 lf
- Parkerson Mill Creek at Turf Unit (Auburn) 300 lf
- Cahaba River at Civitan Park (Trussville) 3,100 lf

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
112	Watershed Protection and Management

**Outcome #55**

**1. Outcome Measures**

The number of Pounds per year of nitrogen reduced in Mill Creek as a result of Alabama Water Watch recommendations

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

Year	Actual
2015	27

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

**Issue (Who cares and Why)**

Pollutants such as nitrogen, phosphorus, and sediment contribute to the degradation of our nation's streams, rivers, lakes, and bays. Many of these pollutants originate from nonpoint sources of pollution. Best Management Practices have been installed in the Mill Creek Watershed (Lee and Russell Counties) of Alabama as part of a special funded watershed project by the Alabama Department of Environmental Management Section 319 funding. The STEPL model was run to determine pollutant load reductions from 3 watershed BMP practices - constructed stormwater wetland and 2-stream enhancement projects.

**What has been done**

Pollutants such as nitrogen, phosphorus, and sediment contribute to the degradation of our nation's streams, rivers, lakes, and bays. Many of these pollutants originate from nonpoint sources of pollution. Best Management Practices have been installed in the Mill Creek Watershed (Lee and Russell Counties) of Alabama as part of a special funded watershed project by the Alabama Department of Environmental Management Section 319 funding. The STEPL model was run to determine pollutant load reductions from 3 watershed BMP practices - constructed stormwater wetland and 2-stream enhancement projects.

**Results**

An average of 26.6 pounds per year of nitrogen was removed due to the implementation of these projects.

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
112	Watershed Protection and Management

**Outcome #56**

**1. Outcome Measures**

The number of Pounds per year of phosphorus reduced in Mill Creek as a result of Alabama Water Watch recommendations

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2015	40

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

**Issue (Who cares and Why)**

Pollutants such as nitrogen, phosphorus, and sediment contribute to the degradation of our nation's streams, rivers, lakes, and bays. Many of these pollutants originate from nonpoint sources of pollution. Best Management Practices have been installed in the Mill Creek Watershed (Lee and Russell Counties) of Alabama as part of a special funded watershed project by the Alabama Department of Environmental Management Section 319 funding. The STEPL model was run to determine pollutant load reductions from 3 watershed BMP practices - constructed stormwater wetland and 2-stream enhancement projects.

**What has been done**

Pollutants such as nitrogen, phosphorus, and sediment contribute to the degradation of our nation's streams, rivers, lakes, and bays. Many of these pollutants originate from nonpoint sources of pollution. Best Management Practices have been installed in the Mill Creek Watershed (Lee and Russell Counties) of Alabama as part of a special funded watershed project by the Alabama Department of Environmental Management Section 319 funding. The STEPL model was run to determine pollutant load reductions from 3 watershed BMP practices - constructed stormwater wetland and 2-stream enhancement projects.

### Results

An average of 40 pounds per year did not enter Mill Creek as a result of the watershed best management practices implemented in 2015.

## 4. Associated Knowledge Areas

KA Code	Knowledge Area
112	Watershed Protection and Management

### Outcome #57

#### 1. Outcome Measures

The number of pounds per year of sediment reduced from degrading Mill Creek as a result of Alabama Water Watch recommendations

#### 2. Associated Institution Types

- 1862 Extension

#### 3a. Outcome Type:

Change in Condition Outcome Measure

#### 3b. Quantitative Outcome

Year	Actual
2015	14

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

##### Issue (Who cares and Why)

Pollutants such as nitrogen, phosphorus, and sediment contribute to the degradation of our nation's streams, rivers, lakes, and bays. Many of these pollutants originate from nonpoint sources of pollution. Best Management Practices have been installed in the Mill Creek Watershed (Lee and Russell Counties) of Alabama as part of a special funded watershed project by the Alabama Department of Environmental Management Section 319 funding. The STEPL model was run to determine pollutant load reductions from 3 watershed BMP practices - constructed stormwater wetland and 2-stream enhancement projects.

##### What has been done

Pollutants such as nitrogen, phosphorus, and sediment contribute to the degradation of our nation's streams, rivers, lakes, and bays. Many of these pollutants originate from nonpoint sources of pollution. Best Management Practices have been installed in the Mill Creek Watershed (Lee and Russell Counties) of Alabama as part of a special funded watershed project by the Alabama Department of Environmental Management Section 319 funding. The STEPL model was run to determine pollutant load reductions from 3 watershed BMP practices - constructed stormwater wetland and 2-stream enhancement projects.

**Results**

An average of 14 pounds per year did not enter Mill Creek as a result of watershed best management practices implemented in 2015.

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
112	Watershed Protection and Management

**Outcome #58**

**1. Outcome Measures**

The number of nursery and greenhouse growers who increased knowledge of best practices to handle new disease and insect pests

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Knowledge Outcome Measure

**3b. Quantitative Outcome**

Year	Actual
2015	47

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

**Issue (Who cares and Why)**

Nursery and greenhouse growers are in need of information surrounding Best Management Practices in order to protect their industry from outside regulation, to improve their business, and to reduce their environmental impact.

**What has been done**

During year one a needs assessment was conducted, a pesticide management workshop was conducted, and issues were identified.

**Results**

47 nursery and greenhouse growers increased knowledge of best practices to handle new disease and insect pests as a result of the BMP's for Alabama Greenhouse and Nursery Industry program.

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
903	Communication, Education, and Information Delivery

**Outcome #59**

**1. Outcome Measures**

Quantity of e-waste (pounds) recycled by citizens practicing improved environmental stewardship leading to a cleaner, safer environment.

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

Year	Actual
2015	17950

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

**Issue (Who cares and Why)**

Educational information to respond to community needs related to electronic waste (e-waste) management is becoming increasingly important. The number of electronic products in households and businesses that are considered to be obsolete, broken, or irreparable is growing at an enormous rate. Continued production of e-waste in such a rapid manner creates a need for improved education and increased adoption of e-waste BMPs. The E-Waste Institute serves as a medium to educate, train, and influence public policies about safe environmental practices for e-waste.

**What has been done**

In 2015, 3,912 lbs. (2012 units) of printer cartridges were recycled through the small electronics recycling program (SERP) via Funding Factory, a 260% increase from 2014. The total earnings generated since the development of the Funding Factory partnership equals \$987.88. 2) Three city-wide e-waste recycling drives in 2015 led to 166 cars dropping off 14,038 lbs. of e-waste. A survey of the participants (n=166) revealed that 51% of the participants were male and 49% were female. It also revealed that less than 10% of the participants were minorities.

**Results**

Alabama A&M Extension These recycling efforts, yielding 17,950 lbs. of e-waste saved nonrenewable natural resources and offset harmful CO2 emissions. 1). The 3,912 lbs. of e-waste recycled via SERP is equivalent to offsetting CO2 emissions from the consumption of 4,342 gallons of gasoline or counterbalancing CO2 emissions from the consumption of 90 barrels of oil. SERP activities also led to the reclamation of 1,347 lbs. of plastic nylon, steel, copper, and aluminum. 2). The economic gains observed from the 14,040 lbs. of e-waste recycled via the city-wide drives totaled over \$1,950.00 (i.e., 4400 lbs. of metal @ \$0.07). The three city e-waste drives also deferred 25,716 lbs. of carbon emissions from entering the atmosphere. According to the EPA Waste Reduction Model (WARM) this equates to 4,362 gallons of gasoline conserved [@\$1.64 per gal. = \$7153.68], 991 trees saved, 37,269 plastic bottles recycled or 171,437 aluminum cans recycled [@\$0.60 per lb. = \$3,318.13].

#### 4. Associated Knowledge Areas

KA Code	Knowledge Area
112	Watershed Protection and Management
133	Pollution Prevention and Mitigation
403	Waste Disposal, Recycling, and Reuse

#### Outcome #60

##### 1. Outcome Measures

The number of Synergistic Efforts to Reduce Pharmaceuticals in the Environment (SerPIE) participants who increased knowledge of prescription drug abuse

##### 2. Associated Institution Types

- 1890 Extension

##### 3a. Outcome Type:

Change in Knowledge Outcome Measure

##### 3b. Quantitative Outcome

Year	Actual
2015	78

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

###### Issue (Who cares and Why)

Pharmaceuticals and personal care products (PPCPs) are being detected in the environment by scientists all over the world. The Synergistic Efforts to Reduce Pharmaceuticals in the Environment (SerPIE) Program helps individuals understand the environmental safeguards germane to proper management and disposal of unwanted medicine. The program aims to improve human, animal and environmental health through a reduction in the number of pharmaceuticals fated for the environment and stockpiled in homes by



promoting positive changes in behavior and adoption of recommended pharmaceutical best management practices (BMPs).

**What has been done**

Fifty-three workshops, demonstrations, exhibits and drug take-back initiatives were carried out in 2015. Nine drug take-back programs with ACES staff participation were conducted. A survey of 560 (n=571) drug take-back participants revealed that 65% of the participants were female; while 39% were male. It also revealed that participation among minorities was fairly low (10%); similar to trends observed in previous years. The majority of the medicines collected were prescription drugs, followed by over-the-counter (OTC) medicines.

**Results**

Alabama A&M Extension Results identifying trends among workshop participants (n=326) revealed that 78% of the participants were aware of the growing problem of prescription drug abuse.

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
112	Watershed Protection and Management
133	Pollution Prevention and Mitigation
136	Conservation of Biological Diversity
403	Waste Disposal, Recycling, and Reuse

**Outcome #61**

**1. Outcome Measures**

The number of SerPIE participants who adopted at least 2 of the recommended pharmaceutical BMPs.

**2. Associated Institution Types**

- 1890 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

Year	Actual
2015	3734

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

**Issue (Who cares and Why)**

Pharmaceuticals and personal care products (PPCPs) are being detected in the environment by scientists all over the world. The Synergistic Efforts to Reduce

Pharmaceuticals in the Environment (SerPIE) Program helps individuals understand the environmental safeguards germane to proper management and disposal of unwanted medicine. The program aims to improve human, animal and environmental health through a reduction in the number of pharmaceuticals fated for the environment and stockpiled in homes by promoting positive changes in behavior and adoption of recommended pharmaceutical best management practices (BMPs).

#### **What has been done**

Fifty-three workshops, demonstrations, exhibits and drug take-back initiatives were carried out in 2015. Nine drug take-back programs with ACES staff participation were conducted. A survey of 560 (n=571) drug take-back participants revealed that 65% of the participants were female; while 39% were male. It also revealed that participation among minorities was fairly low (10%); similar to trends observed in previous years. The majority of the medicines collected were prescription drugs, followed by over-the-counter (OTC) medicines.

#### **Results**

Alabama A&M Extension The 9 drug take-back initiatives yielded 3734 lbs. of PPCPS, resulting in a reduction in PPCPs fated for the environment or stockpiled in homes. Of the 75 (n=108) SerPIE participants responding to 6 to 9 month follow-up surveys, 82% had adopted at least 2 of the recommended pharmaceutical BMPs.

#### **4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
111	Conservation and Efficient Use of Water
112	Watershed Protection and Management
133	Pollution Prevention and Mitigation
403	Waste Disposal, Recycling, and Reuse

#### **Outcome #62**

##### **1. Outcome Measures**

The number of Synergistic Efforts to Reduce Pharmaceuticals in the Environment (SerPIE) participants who achieved knowledge of ways to protect the environment from potential pharmaceutical contamination.

##### **2. Associated Institution Types**

- 1890 Extension

##### **3a. Outcome Type:**

Change in Condition Outcome Measure

##### **3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
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### 3c. Qualitative Outcome or Impact Statement

#### Issue (Who cares and Why)

Pharmaceuticals and personal care products (PPCPs) are being detected in the environment by scientists all over the world. The Synergistic Efforts to Reduce Pharmaceuticals in the Environment (SerPIE) Program helps individuals understand the environmental safeguards germane to proper management and disposal of unwanted medicine. The program aims to improve human, animal and environmental health through a reduction in the number of pharmaceuticals fated for the environment and stockpiled in homes by promoting positive changes in behavior and adoption of recommended pharmaceutical best management practices (BMPs).

#### What has been done

Fifty-three workshops, demonstrations, exhibits and drug take-back initiatives were carried out in 2015. Nine drug take-back programs with ACES staff participation were conducted. A survey of 560 (n=571) drug take-back participants revealed that 65% of the participants were female; while 39% were male. It also revealed that participation among minorities was fairly low (10%); similar to trends observed in previous years. The majority of the medicines collected were prescription drugs, followed by over-the-counter (OTC) medicines.

#### Results

Alabama A&M Extension Eighty (80%) felt that the program enabled them to achieve a social expectation of providing a drug free, safer, and securer home for their families or an environmental expectation of protecting the environment from potential pharmaceutical contamination.

### 4. Associated Knowledge Areas

KA Code	Knowledge Area
111	Conservation and Efficient Use of Water
112	Watershed Protection and Management
133	Pollution Prevention and Mitigation
403	Waste Disposal, Recycling, and Reuse

### Outcome #63

#### 1. Outcome Measures

Number of youth that improved their knowledge of environmentally-related topics through the Urban Environmental Science Education Program.

#### 2. Associated Institution Types

- 1890 Extension

**3a. Outcome Type:**

Change in Knowledge Outcome Measure

**3b. Quantitative Outcome**

Year	Actual
2015	786

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

**Issue (Who cares and Why)**

Outreach education provides a framework for citizens to avoid the long-term consequences associated with poor environmental stewardship and management of natural resources. The Urban Environmental Science Education Program (UESeP) seeks to improve citizen appreciation for science and enhance their understanding of the environment. In short, it identifies environmental issues and provides unbiased, science-based information to help citizens become better stewards of the environment.

**What has been done**

A team-based approach was used to implement UESeP in various settings. The team worked with K-12 teachers and students to improve their knowledge of forestry, wildlife and natural resource management. They carried out 140 activities utilizing multiple delivery modes, including classroom enrichment, workshops, field days, fairs, expos, festivals, earth days and conservation days. Extension presentations were also made at local and regional conferences.

**Results**

Alabama A&M Extension UESEP youth learned the impacts of non-point pollution; the importance of natural resource conservation, the importance of pollinators; and the benefits of reducing, reusing and recycling discarded waste. The percentage of youth participants who improved their knowledge of program concepts was as follows: water quality and quantity (76%); natural resource conservation (74%); forestry and wildlife; (72%) energy and waste management (67%) (n=786). The average youths knowledge before the workshops was rated very low to moderate (1-3) compared to ratings of high and very high (4-5) after the workshops. Surveys revealed that 84% (n=786) of youth surveyed agreed that the program made them want to become better stewards of the environment. Comments: Awesome; I think this is a great program; I liked learning about the environment; I really loved it; I want to do it again; I love to learn new things; I was so fun!

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
111	Conservation and Efficient Use of Water
112	Watershed Protection and Management
133	Pollution Prevention and Mitigation

403 Waste Disposal, Recycling, and Reuse

### **Outcome #64**

#### **1. Outcome Measures**

Percentage of individuals who adopted environmentally friendly home site best management practices (BMPs) as a result of Alabama Urban Home\*A\*Syst

#### **2. Associated Institution Types**

- 1890 Extension

#### **3a. Outcome Type:**

Change in Action Outcome Measure

#### **3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2015	83

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

##### **Issue (Who cares and Why)**

Education and outreach programs that address emerging environmental issues and offer integrated approaches to help resolve them are critical in combating environmental illiteracy among urban and suburban home owners. In order to enhance decision-making, homeowners must understand that their actions are crucial to the protection of their health and the environment.

##### **What has been done**

Twenty-one Alabama Urban Home\*a\*Syst workshops, demonstrations and activities were conducted in 2015 on topics such as water quality; runoff management; lawn and garden; managing hazardous products; storing automotive products; household wastewater treatment; managing trash and waste prevention and indoor air quality. Participants learned how to complete action checklists, perform environmental risk assessments, and implement home site BMPs.

##### **Results**

Alabama A&M Extension Of the 87 (n=95) program participants responding to 6 to 9 month follow-up surveys, 83% had adopted at least 2 of the recommended BMPs.

#### **4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
111	Conservation and Efficient Use of Water
112	Watershed Protection and Management
403	Waste Disposal, Recycling, and Reuse

**Outcome #65**

**1. Outcome Measures**

The number of Alabama Urban Home\*A\*Syst participants who have hazard free,securer homes

**2. Associated Institution Types**

- 1890 Extension

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

Year	Actual
2015	269

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

**Issue (Who cares and Why)**

Education and outreach programs that address emerging environmental issues and offer integrated approaches to help resolve them are critical in combating environmental illiteracy among urban and suburban home owners. In order to enhance decision-making, homeowners must understand that their actions are crucial to the protection of their health and the environment.

**What has been done**

Twenty-one Alabama Urban Home\*a\*Syst workshops, demonstrations and activities were conducted in 2015 on topics such as water quality; runoff management; lawn and garden; managing hazardous products; storing automotive products; household wastewater treatment; managing trash and waste prevention and indoor air quality. Participants learned how to complete action checklists,perform environmental risk assessments, and implement home site BMPs.

**Results**

Alabama A&M Extension - Of the 331 people who participated 269 (81%) felt that the program enabled them to achieve a social (hazard free,securer home), environmental (protecting the environment from poor home site management practices) or economic (saving money) expectation.

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
111	Conservation and Efficient Use of Water
112	Watershed Protection and Management

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

**Outcome #66**

**1. Outcome Measures**

Number of participants that adopted Alabama Smart Yard principles

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2015	368

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

**Issue (Who cares and Why)**

Significant surface water acreage in Alabama and millions of dollars in consumer spending to home landscapes raise the potential for water quality impact. Managing soils, fertility, landscape waste (water runoff and plant debris), supporting wildlife and maintaining healthy plants all fit together for good water stewardship. Residential gardeners view their landscapes as investments worth protecting. Extension educators know it's important that these gardeners also protect our state's natural resources..

**What has been done**

Workshops, demonstrations and webinars were conducted in 2015 on topics such as beneficial insect ID and protection, home lawn/landscape fertility and management, ornamental plant selection and management, water conservation and collection, and invasive pest species.

**Results**

67% of 549 participants surveyed (n=368) adopted strategies such as adding rain barrels to their yards, soil testing before using fertilizer, and choosing plants adapted to their locations..

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
102	Soil, Plant, Water, Nutrient Relationships

**Outcome #67**

**1. Outcome Measures**

Number of participants who increased their knowledge of Smart Yard principles during Lunch & Learn programs

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Knowledge Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2015	1076

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

**Issue (Who cares and Why)**

Managing soils, fertility, landscape waste (water runoff and plant debris), supporting wildlife and maintaining healthy plants all fit together for good water stewardship. Extension volunteers help educate gardeners to protect our state's natural resources

**What has been done**

Volunteers offer short Lunch and Learn programs (or similar at 5:30 pm) in 10 Alabama counties and interest in offering these in other locations continues to grow. Extension Agents train the volunteers in Smart Yard principles and assist them in scheduling monthly programs thru the year.

**Results**

84% of 1281 participants surveyed (n=1076) increased their knowledge about Smart Yard principles from the programs offered.

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
102	Soil, Plant, Water, Nutrient Relationships



**Outcome #68**

**1. Outcome Measures**

Number of volunteers with increased knowledge of principles IPM and pest ID

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2015	275

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

**Issue (Who cares and Why)**

Residential gardeners have questions about numerous topics in their landscape - from pest management to plant selection, and all points in between. MG volunteers are trained to share what they've learned and implement it as models for others to model.

**What has been done**

MGs are trained to extend ACES Home Grounds information through the MG Helpline. ACES supports these volunteers in 11 offices. Along with office Admin's support, REAs train and supervise the Helplines. A toll-free number links all the Helpline phones together for greater efficiency and accuracy of answers.

**Results**

80% of 344 new MG volunteers (n=275) increased their ability to distinguish between abiotic and biotic pests in home landscapes.

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
102	Soil, Plant, Water, Nutrient Relationships

**Outcome #69**

**1. Outcome Measures**

The TONS of food donated to local seniors to reduce food insecurity

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

Year	Actual
2015	25

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

**Issue (Who cares and Why)**

Food insecurity is well documented in many states. Alabama is not alone. MGs enjoy sharing their time, knowledge and talent growing food for the community and teaching people how to grow it themselves.

**What has been done**

MGs managed and supported CASA type, community, demonstration, and home gardens in 2015. A project in Guntersville documented 7,018 pounds donated to local CASA program. There are 25 MG groups volunteering with food garden projects around Alabama.

**Results**

A conservative report of 25 TONS fresh produce was donated from MG managed food gardens in 2015. One garden in Guntersville documented 7,018 pounds donated to local CASA program.

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
102	Soil, Plant, Water, Nutrient Relationships

**Outcome #70**

**1. Outcome Measures**

Number of volunteers who adopted landscape best management practices

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

Year	Actual
2015	285

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

**Issue (Who cares and Why)**

Residential gardeners have questions about numerous topics in their landscape - from pest management to plant selection, and all points in between.

**What has been done**

MG volunteers are trained to share what they've learned and implement it as models for others to copy. 344 new MG volunteers were surveyed. They have implemented many of the concepts taught during their training

**Results**

83% of 344 new MG volunteers (n=285) are adopted landscaping best practices including submitting soil test samples to prevent overuse of fertilizer additions to their landscape.

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
102	Soil, Plant, Water, Nutrient Relationships

**Outcome #71**

**1. Outcome Measures**

Number of volunteers who adopted landscaping best management practices: efficient irrigation

**2. Associated Institution Types**

- 1862 Extension

### 3a. Outcome Type:

Change in Action Outcome Measure

### 3b. Quantitative Outcome

Year	Actual
2015	296

### 3c. Qualitative Outcome or Impact Statement

#### Issue (Who cares and Why)

Residential gardeners have questions about numerous topics in their landscape - from pest management to plant selection, and all points in between.

#### What has been done

MG volunteers are trained to share what they've learned and implement it as models for others to copy. 344 new MG volunteers were surveyed. They have implemented many of the concepts taught during their training

#### Results

344 new MG volunteers were surveyed. 86% have installed or changed their irrigation for greater efficiency of water usage (n=296)

## 4. Associated Knowledge Areas

KA Code	Knowledge Area
102	Soil, Plant, Water, Nutrient Relationships

### Outcome #72

#### 1. Outcome Measures

Change in dollar value of beef heifers due to being bred to AI bulls

#### 2. Associated Institution Types

- 1862 Extension

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

Year	Actual
2015	669

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

**Issue (Who cares and Why)**

Using artificial insemination to breed beef cattle, along with choosing bulls that are genetically superior, will result in genetically superior calves being born compared to natural service. This should result in an increase in value of heifers bred to genetically superior AI bulls.

**What has been done**

Of the 2552 beef females bred using AI as a result of the estrus synchronization and timed AI Extension workshops, 21 of the females were sold in replacement female sales. There was a marked difference in the value of these heifers compared to others auctioned on the same day.

**Results**

This is the dollar difference (per head, n=21) between heifers being bred to AI bulls that were part of these workshops compared to other heifers being sold on the same day at the 2015 Herdbuilder Sale in Uniontown in August. This provided \$14,049 more dollars to the producers who participated in these educational workshops. The 21 bred heifers averaged \$3833/head compared to the other 209 heifers that averaged \$3164/head.

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
304	Animal Genome

**Outcome #73**

**1. Outcome Measures**

The number of producers who adopted artificial insemination into their management practices

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

### 3b. Quantitative Outcome

Year	Actual
2015	13

### 3c. Qualitative Outcome or Impact Statement

#### Issue (Who cares and Why)

Using artificial insemination to breed beef cattle, along with choosing bulls that are genetically superior, will result in genetically superior calves being born compared to natural service. As a result of beef cattle synchronization and timed artificial insemination workshops, one extension volunteer has worked with 7 farms in his area to set up a program for these farmers.

#### What has been done

The volunteer has spent approximately 6 hours at each farm in consultation and setting up the breeding protocol. This equates to a \$2184 donation to the Alabama Cooperative Extension System by teaching others what he learned through Extension programming.

#### Results

Thirteen additional producers are now incorporating estrus synchronization and fixed time artificial insemination into their management practices.

### 4. Associated Knowledge Areas

KA Code	Knowledge Area
304	Animal Genome

### Outcome #74

#### 1. Outcome Measures

Average Percent Change in participant knowledge by attending a Practical Ranch Management Workshop

#### 2. Associated Institution Types

- 1862 Extension

#### 3a. Outcome Type:

Change in Knowledge Outcome Measure

### 3b. Quantitative Outcome

Year	Actual
2015	27

### 3c. Qualitative Outcome or Impact Statement

**Issue (Who cares and Why)**

Beef cattle producers in Alabama many times hear of management techniques to use on their farms. Many times they are unsure of how to properly execute these management practices on their farms. One day Practical Ranch Management Workshops provide hands on training of various management practices that producers can then implement on their farms.

**What has been done**

Three workshops were held in Alabama in 2015. Management practices includes beef cattle identification methods, sprayer calibration, dehorning/castration and implanting, vaccinations, hay and soil testing, weed and understanding a forage analysis. A pre- and post knowledge test on each management technique was administered to each participant (n=159). Knowledge rating were from 1 to 5 (1=very low to 5 = very high). Results are in units changed.

**Results**

Average participant knowledge change over the 5 management techniques was 27%. The largest area of knowledge change was in sprayer calibration.

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
601	Economics of Agricultural Production and Farm Management

**Outcome #75**

**1. Outcome Measures**

Dollar value technical assistance provided to farmers about Synchronization and Timed artificial insemination

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2015	2184

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

**Issue (Who cares and Why)**

Using artificial insemination to breed beef cattle, along with choosing bulls that are genetically superior, will result in genetically superior calves being born compared to natural service. As a result of beef cattle synchronization and timed artificial insemination workshops, one extension volunteer has worked with 7 farms in his area to set up a program for these farmers.

**What has been done**

The volunteer has spent approximately 6 hours at each farm in consultation and setting up the breeding protocol. This equates to a \$2184 donation to the Alabama Cooperative Extension System by teaching others what he learned through Extension programming.

**Results**

The economic impact of Artificial Insemination technical assistance provided to farmers.

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
304	Animal Genome

**Outcome #76**

**1. Outcome Measures**

The acres of reef restored by oysters

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2015	3

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

**Issue (Who cares and Why)**

Natural oyster populations in Mobile Bay and MS Sound have been degraded by storm, predator and anthropomorphic causes resulting in significant declines in wild harvests, spawning capacity and habitat related to oyster reefs. In 2015, the 96 volunteer gardeners participated in the Mobile Bay Oyster Gardening Program by caring for juvenile hatchery reared oyster spat in small suspended gardens beginning in June 2015. In November 2015, these oysters (now nearly 2.5 inches in size) were collected and planted on degraded reef sites within Mobile Bay where they will be ready to spawn during the spring of 2016.

**What has been done**

43,500 oysters produced and planted.

**Results**



The 43,500 oysters produced by the 96 gardeners in 2015 is enough to restore 2.14 acres of reef (5/m<sup>2</sup>)

#### 4. Associated Knowledge Areas

KA Code	Knowledge Area
135	Aquatic and Terrestrial Wildlife

#### Outcome #77

##### 1. Outcome Measures

Increase in the amount of oyster larvae to the estuarine system

##### 2. Associated Institution Types

- 1862 Extension

##### 3a. Outcome Type:

Change in Condition Outcome Measure

##### 3b. Quantitative Outcome

Year	Actual
2015	1000000

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

###### **Issue (Who cares and Why)**

With the degradation of natural oyster reefs in Mobile Bay and MS Sound from natural and human activities, adult oyster numbers and their respective reproductive capacity has declined. As a result, oyster larval production and subsequent recruitment declines. November 2015 plantings of the advanced stocker size oysters (~2.5 inches) produced by the volunteer Gardeners will result in millions of additional oyster larvae produced during the spring 2016 spawning season.

###### **What has been done**

43,500 advanced stocker oysters were planted in November 2015 which will spawn in the spring of 2016 producing millions of additional larvae for the estuarine system of Mobile Bay

###### **Results**

Planted oysters will spawn in spring of 2016 adding millions of additional oyster larvae to the estuarine system.

#### 4. Associated Knowledge Areas

KA Code	Knowledge Area
135	Aquatic and Terrestrial Wildlife

**Outcome #78**

**1. Outcome Measures**

Value of oyster reef restored includes ecological components

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

Year	Actual
2015	41464

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

**Issue (Who cares and Why)**

With the degradation of natural oyster reefs in Mobile Bay and MS Sound from natural and human activities, adult oyster numbers and their respective reproductive capacity has declined. As a result, oyster larval production and subsequent recruitment declines. November 2015 plantings of the advanced stocker size oysters (~2.5 inches) produced by the volunteer Gardeners will result in millions of additional oyster larvae produced during the spring 2016 spawning season.

**What has been done**

43,500 oysters produced by volunteer gardeners sufficient to restore (5/m<sup>2</sup>) 2.14 acres with a per acre value of \$19,376.11 (TNC) for a total value of \$41,464.88 for the 2.14 acres in 2015.

**Results**

dollar value of 2.14 acres of oyster reef restored (TNC) including total net benefits of added reef, increase local economic value from higher catch (habitat), increase in revenue from harvested share of enhanced fish numbers, pounds of N removed and the value of the N removed by the restored reef acreage.

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
135	Aquatic and Terrestrial Wildlife

**Outcome #79**

**1. Outcome Measures**

The number of participants who adopted water conservation recommendations: rainwater collection systems for urban noncommercial garden

**2. Associated Institution Types**

- 1890 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

Year	Actual
2015	1253

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

**Issue (Who cares and Why)**

Water is actually a limited resource when considered to be used in growing produce and home use. The adoption of rainwater collection systems for urban community use is an economical, easy, and sustainable way to conserve one of our natural resources.

**What has been done**

The Water Wheels 2014 FY reached 5700 (face to face) individuals through 57 scheduled activities. Some of these activities also have the potential to reach other (non-face to face) individuals through distributed educational resource materials, internet, radio and T.V. interviews, social media (Website visited for FY2015, 6,242 visits, with 10,568 website hits, 16 average visits per day, and August with the highest traffic month: 52% visits from the U.S.), and newspapers. The non-traceable clientele are estimated to be 37,335. Total number reached by the Water Wheels FY2015 is 43,055. The face to face clientele (5700) were 28% adults, 71% youth, 19% black, 75% white, 48% male, and 52% female.

**Results**

Alabama A&M Extension Of the 1623 participants surveyed, 1253 increased the use of rainwater and adoption of water conservation interventions (Adult: n= 519 Youth: n=734)

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
111	Conservation and Efficient Use of Water

**Outcome #80**

**1. Outcome Measures**

The number of participants who increased knowledge of water conservation

**2. Associated Institution Types**

- 1890 Extension

**3a. Outcome Type:**

Change in Knowledge Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2015	1992

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

**Issue (Who cares and Why)**

Administered surveys and responses indicate that the Water Wheels programming has (5700 face to face, 1623 surveyed): 1. Increase the use of rainwater and adoption of water conservation interventions (Adult: 32% n=519 / Youth: 18% n=734), 2. Decrease in pollution and runoff, 3. Knowledge gain of water conservation (Adult; 85% n=1380 / Youth: 15% n=612), 4. Number of clientele participating in the cost/returns /impact of the project increased (32% participation, n=519).

**What has been done**

**Results**

Alabama A&M Extension Of the 1623 surveyed, 1992 increased knowledge of water conservation (Adult; n=1380 Youth:n=612)

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
111	Conservation and Efficient Use of Water

## **Outcome #81**

### **1. Outcome Measures**

The number of urban, nontraditional, and underrepresented participants with increased knowledge of environmental knowledge of Green Space development and Sustainable Landscaping practices

### **2. Associated Institution Types**

- 1890 Extension

### **3a. Outcome Type:**

Change in Knowledge Outcome Measure

### **3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2015	5719

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

#### **Issue (Who cares and Why)**

The Urban Gardens and Sustainable Landscapes (USGL) Program is a comprehensive Urban Extension horticultural education initiative that includes the following programming efforts 1) Increase availability of local fresh fruits and vegetables for limited-resource families and individuals, 2) Increase intake of fresh fruits and vegetables, 3) Educate consumers on the benefits of gardening in limited urban spaces, 4) Enhance management of urban landscapes through improved utilization of space for community aesthetics and health, 5) Promote composting, recycling of household waste and other reusable materials to increase environmental sustainability, 6) Promote water conservation and use of other techniques to preserve natural resources.

#### **What has been done**

During the course of 2015 eight UREAs conducted workshops, seminars and attended various conferences to educate Alabama urban clientele on the benefits of gardening in limited urban spaces, and the options and opportunities available for gardening with limited resources. The Urban Green 2015 FY reached 5,719 (face to face) individuals through 181 scheduled activities. The non-traceable clientele are estimated to be 434,976. Total number reached by the Urban Green FY2015 in face to face clientele (5,719) were 56% (n=3187) adults, 44% (n=2532) youth, 26% (n=1498) black, 69% (n=3967) white, 38% (n=2177) male, and 62% (n=3542) female.

#### **Results**

Alabama A&M Extension - 5719 urban participants increased knowledge of Sustainable Landscape and Urban Green practices (Adult; 56% n=3187 / Youth: 44% n=2532)

### **4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
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102	Soil, Plant, Water, Nutrient Relationships
111	Conservation and Efficient Use of Water
903	Communication, Education, and Information Delivery

**Outcome #82**

**1. Outcome Measures**

The number of urban, nontraditional, and underrepresented audiences who adopted Green Space and Sustainable Landscaping recommendations

**2. Associated Institution Types**

- 1890 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

Year	Actual
2015	2023

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

**Issue (Who cares and Why)**

The Urban Gardens and Sustainable Landscapes (USGL) Program is a comprehensive Urban Extension horticultural education initiative that includes the following programming efforts 1) Increase availability of local fresh fruits and vegetables for limited-resource families and individuals, 2) Increase intake of fresh fruits and vegetables, 3) Educate consumers on the benefits of gardening in limited urban spaces, 4) Enhance management of urban landscapes through improved utilization of space for community aesthetics and health, 5) Promote composting, recycling of household waste and other reusable materials to increase environmental sustainability, 6) Promote water conservation and use of other techniques to preserve natural resources.

**What has been done**

During the course of 2015 eight UREAs conducted workshops, seminars and attended various conferences to educate Alabama urban clientele on the benefits of gardening in limited urban spaces, and the options and opportunities available for gardening with limited resources. The Urban Green 2015 FY reached 5,719 (face to face) individuals through 181 scheduled activities. The non-traceable clientele are estimated to be 434,976. Total number reached by the Urban Green FY2015 in face to face clientele (5,719) were 56% (n=3187) adults, 44% (n=2532) youth, 26% (n=1498) black, 69% (n=3967) white, 38% (n=2177) male, and 62% (n=3542) female.

**Results**

Alabama A&M Extension- Of the 5719 urban participants, 2023 adopted Sustainable Landscaping and Urban Green practices (Adult; 42% n=1339 / Youth: 27% n=684)

#### 4. Associated Knowledge Areas

KA Code	Knowledge Area
102	Soil, Plant, Water, Nutrient Relationships
111	Conservation and Efficient Use of Water
903	Communication, Education, and Information Delivery

#### Outcome #83

##### 1. Outcome Measures

Number of municipal drinking water systems that adopted water methods to reduce nuisance algae

##### 2. Associated Institution Types

- 1862 Extension

##### 3a. Outcome Type:

Change in Condition Outcome Measure

##### 3b. Quantitative Outcome

Year	Actual
2015	1

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

###### **Issue (Who cares and Why)**

Algae and other aquatic organisms have the capacity to produce toxins and off flavors that can lead to health concerns for people and livestock. These off flavors also cause economic impacts increasing the cost of water treatment and impacting the acceptability of fish grown in waters with dense bloom of these organisms.

###### **What has been done**

Our interactions with water treatment agencies has led to cost-effective approaches to the control of off-flavor in drinking water reservoirs. Currently Opelika, AL, is managing its water supply reservoir using subsurface withdrawal to minimize off-flavor in the finished water. This strategy was a product of interactions with the Extension Specialist (Russell Wright) and the Research Limnologist (Alan Wilson) on this project.

###### **Results**

The project developed recommendations for the timing and depth of water withdrawal to reduce off flavor in drinking water. Currently Opelika, AL, has adopted our recommendations to manage its water supply reservoir by using subsurface withdrawal to minimize off-flavor in the finished water. This strategy was a product of interactions with the Extension Specialist (Russell Wright) and the Research Limnologist (Alan Wilson) on this project.

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
111	Conservation and Efficient Use of Water

**Outcome #84**

**1. Outcome Measures**

Percentage of clients who adopted Recreational Fish Pond Management practices recommended through direct consultation.

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2015	75

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

**Issue (Who cares and Why)**

Pond owners must cope with management challenges that affect the status of their ponds. These include weeds, fish diseases, maintenance of algal fertility, controlling pest species, and maintaining quality size of fish, among others.

**What has been done**

This project addresses the needs of pond owners , managers, and those interested in ponds in 3 ways; proactively by generating literature, digital resources, ; interactively through workshops and events; and reactively by responding to the needs of individuals with problems (pond visits, weed identification and control, telephone and email consultations, office visits). Direct consultations was the component assessed.

**Results**

The 75% of pond owners contacted who adopted our pond management recommendations experienced greater satisfaction with their ponds. None the pond owners who were contacted for follow up calls experienced a negative result from adopting the recommendations from extension personnel.

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
134	Outdoor Recreation



**Outcome #85**

**1. Outcome Measures**

The number of Water Quality Education Program within Rural Black Belt Counties with increased knowledge of water conservation

**2. Associated Institution Types**

- 1890 Extension
- 1890 Research

**3a. Outcome Type:**

Change in Knowledge Outcome Measure

**3b. Quantitative Outcome**

Year	Actual
2015	38

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

**Issue (Who cares and Why)**

Alabama is one of the richest states in the US when water resources are concerned owing to its many surface water ways, as well as its relatively pristine groundwater resources. As the state's agricultural sector continues to grow the use of these resources for other functions than just residential is unavoidable, which is why education as to the responsible use and conservation of these resources is a necessity.

**What has been done**

Cooperative Extension agents and specialists have assisted in developing demonstration sites on campus and throughout the Black Belt for the use of sustainable pumping methods for both groundwater and surface water. Two demonstrations were held in Butler and Macon counties in addition to 26 site visits to assess suitability for water use, water use efficiency, the importance of water quality testing, and assisting in system designs.

**Results**

Tuskegee Research and Extension -Demonstration and workshop post tests showed that 100% of participants learned surface water utilization techniques not previously known. Participants in field days and demonstrations came away with a better understanding of how to responsibly use water resources for both residential and agricultural purposes.

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
111	Conservation and Efficient Use of Water

**Outcome #86**

**1. Outcome Measures**

Number of wells with water quality issues corrected

**2. Associated Institution Types**

- 1890 Extension
- 1890 Research

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2015	7

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

**Issue (Who cares and Why)**

Alabama is one of the richest states in the US when water resources are concerned owing to its many surface water ways, as well as its relatively pristine groundwater resources. As the state's agricultural sector continues to grow the use of these resources for other functions than just residential is unavoidable, which is why education as to the responsible use and conservation of these resources is a necessity.

**What has been done**

Water Quality Program performs water testing services as well as one-on-one consultation for the results of the water testing. Twelve samples were submitted from both residential and agricultural sources for both personal and business use.

**Results**

Tuskegee Research and Extension Although within Safe Drinking Water Standards issued by the Environmental Protection Agency, seven out 12 samples tested positive for fecal coliform bacteria. Of the positive fecal coliform tests, participants were consulted on how to treat the water, and all resubmitted tests with negative results for fecal coliform bacteria.

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
111	Conservation and Efficient Use of Water

**Outcome #87**

**1. Outcome Measures**

The number of youth with increased knowledge regarding environmental stewardship as a result of Water Quality Education Program within Rural Black Belt Counties

**2. Associated Institution Types**

- 1890 Extension
- 1890 Research

**3a. Outcome Type:**

Change in Knowledge Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2015	212

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

**Issue (Who cares and Why)**

Communities of color, which are often poor, are routinely targeted to host facilities that have negative environmental impacts. Environmental stewardship education is an important part of the struggle to improve and maintain clean and healthy environments for future generations.

**What has been done**

Black Belt youth were engaged through the 3rd Annual Macon County Water Festival at Tuskegee Public School as well as the two week STEAM camp (SMART Camp) at George Washington Carver Elementary School in the summer. Between the two events, students participated in hands-on learning activities focusing on water education. University interns at CISC were used as instructors in the camp whose focus was water conservation.

**Results**

Tuskegee Research and Extension - Students in the SMART Camp showed an almost 20% increase in their knowledge, and were able to demonstrate ecosystem services of water through seven experiments and activities led by the University students over the two weeks. University students also captured their change in knowledge through interviews after their summer internship experience, which are now uploaded on YouTube. When asked about future careers, the summer experience for them was able to help shape their career paths to include marine science, science education, and graduate school. In regards to the Water festival, students had the chance to participate in a jeopardy game to exhibit the knowledge learned. Close to 90% of the students answered their questions correctly. [However all the student left with enthusiasm, being empowered to affect their families with the new information they just learned.]

#### 4. Associated Knowledge Areas

KA Code	Knowledge Area
111	Conservation and Efficient Use of Water
133	Pollution Prevention and Mitigation

#### Outcome #88

##### 1. Outcome Measures

The number of Black Belt youth with increased knowledge about the ethical and moral issues that are involved in nature resource conservation and economics of rural communities

##### 2. Associated Institution Types

- 1890 Extension
- 1890 Research

##### 3a. Outcome Type:

Change in Knowledge Outcome Measure

##### 3b. Quantitative Outcome

Year	Actual
2015	120

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

###### **Issue (Who cares and Why)**

Communities of color, which are often poor, are routinely targeted to host facilities that have negative environmental impacts. Environmental justice is an important part of the struggle to improve and maintain clean and healthy environments. Additionally in response to this present injustice, natural resource conservation and education is important to the resolution.

###### **What has been done**

University students were educated about water resources, pollution, water quality laws and the Safe Drinking Water Act (SDWA), and the history and application of Environmental Justice regionally, nationally, and internationally. Students then engaged in water quality site assessments and testing in the Municipality of Tuskegee. They also engaged in a debate about EJ issues in the Alabama Black Belt.

###### **Results**

Tuskegee Research and Extension -Out of the 120 students who participated in the debate about the ethical and moral issues that are involved in nature resource conservation and economics of rural communities, 95% demonstrated their new knowledge in both papers and post-tests regarding EJ and water conservation respectively.

#### 4. Associated Knowledge Areas

KA Code	Knowledge Area
111	Conservation and Efficient Use of Water
112	Watershed Protection and Management
133	Pollution Prevention and Mitigation

#### Outcome #89

##### 1. Outcome Measures

The number of limited resource landowners with increased knowledge of forest management best practices

##### 2. Associated Institution Types

- 1890 Extension
- 1890 Research

##### 3a. Outcome Type:

Change in Knowledge Outcome Measure

##### 3b. Quantitative Outcome

Year	Actual
2015	24

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

###### **Issue (Who cares and Why)**

Limited resource landowners tend to sell timber without the aid of a consulting forester. Therefore, they need to know how to sell timber and be aware of contracts. They also need to know the alternatives to livestock management or forest management. Land-based conservation missions of agencies and organizations, Educational institutions, and land owners need to be addressed from a science-based perspective due to concerns for economic viability, real property security/ sustainability and improvement of quality of life.

###### **What has been done**

Nine workshops, a conference, field days, and site visitations were conducted in throughout the Black Belt counties (Macon, Barbour, Bullock, Wilcox, and Lowndes) on how market timber, forestry contracts, and silvopasture management. Participants were educated in estate planning, managing your forest resources for profit, Tree identification, and advice on consultant selection were given to 85 contacts.

###### **Results**

Tuskegee Research and Extension -63% of attendees said that their knowledge before the Sustainable Management of Forest and Range Land within Black Belt Counties workshops was

adequate to limited, while 98% of the attendees said that their knowledge after the workshops was good to excellent.

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
111	Conservation and Efficient Use of Water
123	Management and Sustainability of Forest Resources

**Outcome #90**

**1. Outcome Measures**

The number of limited resource youth with increased interest in forestry and natural resource careers

**2. Associated Institution Types**

- 1890 Extension
- 1890 Research

**3a. Outcome Type:**

Change in Knowledge Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2015	190

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

**Issue (Who cares and Why)**

Limited resource landowners tend to sell timber without the aid of a consulting forester. Therefore, they need to know how to sell timber and be aware of contracts. They also need to know the alternatives to livestock management or forest management. Land-based conservation missions of agencies and organizations, Educational institutions, and land owners need to be addressed from a science-based perspective due to concerns for economic viability, real property security/ sustainability and improvement of quality of life.

**What has been done**

During the course of the program 200 + students and community members were introduced to national forest resources and programs during federal lands day, a field day, Forestry for Youth, was held with 200 Students from Bullock and Montgomery County Schools. During 3 weeks in the summer, Alabama Forestry Camp was held for 40 students from various locations in Alabama. A final field day, Classroom in the forest was held for 285 fourth and fifth graders from six west Alabama Counties.

### Results

Tuskegee Research and Extension -Of the programs, Alabama Forestry Camp seemed to be the most successful, as 95% (N = 200) of participants said that they were interested in forestry and natural resource careers. Case studies of individual youth of the other programs revealed a multiplicity of career interests, as many of the youth were being introduced to forestry and natural resources for the first time.

#### 4. Associated Knowledge Areas

KA Code	Knowledge Area
123	Management and Sustainability of Forest Resources

#### V(H). Planned Program (External Factors)

##### External factors which affected outcomes

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

##### Brief Explanation

#### V(I). Planned Program (Evaluation Studies)

##### Evaluation Results

**EWaste-** These recycling efforts, yielding 17,950 lbs. of ewaste saved nonrenewable natural resources and offset harmful CO2 emissions. The economic gains observed from the 14,040 lbs. of e waste recycled via the citywide drives totaled over \$1,950.00. The three city ewaste drives also deferred 25,716 lbs. of carbon emissions from entering the atmosphere. According to the EPA Waste Reduction Model (WARM) this equates to 4,362 gallons of gasoline being conserved [ @ \$1.64 per gal. = \$7153.68].

**Pond Management-** About 60 follow up phone calls were made to individuals who had contacted the state leader for this program. Of those called none experienced negative results from the recommendations given. 34 of the pond owners had successfully implemented the recommendations provided.

**Climate Change-** Climate change will impact corn and soybean yields in the future. Specifically corn yields are projected to decrease between 19.5% and 37.3% for 2045 and between 32.5% and 77.8% for 2075 under medium (RCP 4.5) and high (RCP 8.5) greenhouse gas emissions scenarios. Soybean is projected to have average yield decrease of between 27% and 38% in 2045 and between 26% and 59% in 2075 under medium (RCP 4.5) and high (RCP 8.5) greenhouse gas emissions scenarios.

**Students in the SMART Camp** showed an almost 20% increase in their knowledge, and

were able to demonstrate ecosystem services of water through seven experiments and activities led by the University students over the two weeks. Out of the 120 students who participated in the debate about the ethical and moral issues that are involved in nature resource conservation and economics of rural communities, 95% demonstrated their new knowledge in both papers and post-tests regarding EJ and water conservation respectively.

**Forestry Resources** - 63% of attendees said that their knowledge before the workshops was adequate to limited, while 98% of the attendees said that their knowledge after the workshops was good to excellent. 98% of the attendees said that they planned to use the information gained at the workshops.

**Alabama Forestry Camp** seemed to be the most successful, as 95% of participants said that they were interested in forestry and natural resource conservation.

**AU Research** -Total water alkalinity and hardness concentrations in streams in Alabama and contiguous areas in Mississippi were measured in 2014-15 and compared with concentrations determined in 1973. Average alkalinity and hardness of approximately 300 streams increased 13.5% and 20.4%, respectively, in the 42 period. these results are partially explained by the greater atmospheric concentration of Carbon Dioxide (CO<sub>2</sub>) that increases the availability of aqueous CO<sub>2</sub> to dissolve limestone and other sources of alkalinity and hardness.

## Key Items of Evaluation

**EWaste**- These recycling efforts, yielding 17,950 lbs. of ewaste saved nonrenewable natural resources and offset harmful CO<sub>2</sub> emissions. The economic gains observed from the 14,040 lbs. of e waste recycled via the citywide drives totaled over \$1,950.00. The three city ewaste drives also deferred 25,716 lbs. of carbon emissions from entering the atmosphere. According to the EPA Waste Reduction Model (WARM) this equates to 4,362 gallons of gasoline being conserved [ @ \$1.64 per gal. = \$7153.68]

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

**Program # 3**

**1. Name of the Planned Program**

Food Systems and 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
102	Soil, Plant, Water, Nutrient Relationships	13%	0%	0%	0%
205	Plant Management Systems	20%	0%	0%	0%
216	Integrated Pest Management Systems	12%	0%	0%	0%
304	Animal Genome	0%	0%	5%	7%
305	Animal Physiological Processes	0%	0%	5%	5%
307	Animal Management Systems	0%	0%	10%	13%
308	Improved Animal Products (Before Harvest)	0%	0%	5%	7%
311	Animal Diseases	0%	0%	5%	5%
314	Toxic Chemicals, Poisonous Plants, Naturally Occurring Toxins, and Other Hazards Affecting Animals	0%	0%	10%	10%
501	New and Improved Food Processing Technologies	5%	10%	10%	10%
503	Quality Maintenance in Storing and Marketing Food Products	5%	10%	10%	3%
504	Home and Commercial Food Service	10%	10%	5%	0%
607	Consumer Economics	0%	0%	5%	5%
711	Ensure Food Products Free of Harmful Chemicals, Including Residues from Agricultural and Other Sources	20%	35%	10%	15%
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins	0%	0%	10%	10%
721	Insects and Other Pests Affecting Humans	15%	35%	5%	0%
723	Hazards to Human Health and Safety	0%	0%	5%	10%
	<b>Total</b>	100%	100%	100%	100%

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

1. Actual amount of FTE/SYs expended this Program

**Auburn University**

Year: 2015	Extension		Research	
	1862	1890	1862	1890
<b>Plan</b>	17.0	4.4	14.0	8.0
<b>Actual Paid</b>	17.8	0.0	28.0	0.0
<b>Actual Volunteer</b>	0.0	0.0	0.0	0.0

**Alabama A&M University**

Year: 2015	Extension		Research	
	1862	1890	1862	1890
<b>Plan</b>	17.0	4.4	14.0	8.0
<b>Actual Paid</b>	0.0	1.3	0.0	3.5
<b>Actual Volunteer</b>	0.0	0.0	0.0	0.0

**Tuskegee University**

Year: 2015	Extension		Research	
	1862	1890	1862	1890
<b>Plan</b>	17.0	4.4	14.0	8.0
<b>Actual Paid</b>	0.0	0.7	0.0	4.4
<b>Actual Volunteer</b>	0.0	0.0	0.0	0.0

**2. Institution Name:** Auburn University

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

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
566864	0	480110	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
374091	0	483159	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
1825275	0	2358571	0

**2. Institution Name:** Alabama A&M University

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

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
0	98628	0	602226
1862 Matching	1890 Matching	1862 Matching	1890 Matching
0	98628	0	602226
1862 All Other	1890 All Other	1862 All Other	1890 All Other
0	141220	0	0

**2. Institution Name:** Tuskegee University

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

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
0	55374	0	238000
1862 Matching	1890 Matching	1862 Matching	1890 Matching
0	37974	0	214372
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**

**WalMart** -The Walmart Initiative was to bridge the gap between the ability of historically disadvantaged farmers to grow produce and their ability to pack and market their produce in a manner that resulted in enhanced profits. Hands-on training, workshops, and technical assistance sessions were used to assist these farmers to be able to supply produce commercially. Topics included: procedures for negotiating price points with buyers; developing cold chain management systems for crop storage, transit, and processing; methods for properly packaging and storing produce; how to cultivate and build mutually beneficial relationships with commercial buyers; scale-appropriate integrated pest management (IPM) and grading; and, farmers' cooperative management.

**FCW**-Identification and Enumeration of E. coli and the Impact of Climate Change and Variability to determine the Water Quality in the Flint Creek Watershed (FCW)-The proposed research will establish baseline data to characterize the water quality of the FCW by determining the presence of fecal indicator bacteria in relationship to climatic factors that would ultimately assist in managing possible risk to human and environmental health.

**Reduction of antimicrobial resistance in poultry product production utilizing probiotics** -The goal of the proposed work is to develop, evaluate, and implement effective and sustainable strategies that mitigate emergence, spread and persistence of antimicrobial resistant pathogens in the ecosystem from farm to fork.

**Food Safety of Aquaponic Products** -The goal of the proposed work is to improve the safety of

aquaponic products. Investigate the efficacy of natural antimicrobials to inhibit the growth of Salmonella in natural and organic apple cider and apple juice-the goal of the work is to improve the microbiological safety of apple juice and apple cider labeled as natural and organic.

**ServeSafe**-A certified Food Safety Program is required to be completed for at least one individual in a Food Service Establishment in the state of Alabama. The Alabama Cooperative Extension System Food Safety and Quality Team teaches the ServSafe course certified through the National Restaurant Association.

**Value Added Livestock Marketing** The overall objective of this planned program is to increase farmer and rancher knowledge and expertise in various valueadded marketing options. Educational programs, written materials and assistance for valueadded marketing programs such as comingled feeder calf programs, retained ownership, seed stock bull sales, replacement heifer sales and other livestock as opportunities arise

**The AU Food Systems Institute (AUFISI)** has been active in in integrating research, education, and outreach activities in food systems and food safety. The AUFISI has developed 12 working groups including Antibiotic Alternatives, Certificate Programs, Small Farm Safety, Food Defense, and Salmonella control. The AUFISI works with university aquaculture programs, the Detection and Food Safety Center, and even the Auburn University hotel and restaurant management program to address food-related issues through proper training and outreach activities.

## 2. Brief description of the target audience

**Walmart**- The target audience was small and historically disadvantaged farmers, including women, military veterans, and new and beginning farmers in the Alabama Black Belt and other surrounding Counties. Participating farmers were trained on and adopted Good Agricultural Practices (GAPs), increase their sales of produce to commercial buyers. Several farmers increase their revenues from produce sales.

**FCW, Poultry Probiotics & Aquaponics** 1) stakeholders, regulators and watershed coordinators; 2) poultry production companies and poultry processing companies; 3) small farmers and small commercial operations; 4) Juice industry and regulators

**ServSafe**- Any individual that wishes to meet the food safety certification required by the state of Alabama.

### Value Added

**Livestock Marketing**- The target audience for this planned program is commercial and seedstock beef cattle producers and also beef cattle industry organizations and professionals. Seedstock beef producers are genetic suppliers, producing of breeding bulls, registered with a breed association, with documented pedigrees and estimates of genetic merit. Commercial beef cattle producers' primary focus is to produce feeder calves for beef production and also replacement heifers. The target audience is primarily rural with a smaller portion of an urban audience.

**AUFISI**- Researchers, food handlers, chefs, students, and the general public. All individuals who handle,

## 3. How was eXtension used?

N/A

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

### 1. Standard output measures

2015	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Actual	58366	1166027	15674	513

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

Year: 2015  
 Actual: 0

**Patents listed**

**3. Publications (Standard General Output Measure)**

**Number of Peer Reviewed Publications**

2015	Extension	Research	Total
Actual	17	113	130

**V(F). State Defined Outputs**

**Output Target**

**Output #1**

**Output Measure**

- Publications; number of abstracts and publications, Extension fact sheets and bulletins; farmers and students reached, farmers practicing GAP, workshops and seminars conducted, farm demonstrations; new feeds for animal production, new antimicrobials for animal production, new information and technology, documented antimicrobials for pre and post harvest.  
 Not reporting on this Output for this Annual Report

**Output #2**

**Output Measure**

- Number AU Food Systems Institute publications

Year	Actual
2015	119

**Output #3**

**Output Measure**

- Number of K-12 Aquaculture/Aquascience training programs

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

2015 5

**Output #4**

**Output Measure**

- Number of K-12 Science teachers trained in Aquaculture/Aquascience Education

<b>Year</b>	<b>Actual</b>
2015	35

**Output #5**

**Output Measure**

- Number of participants in Homegrown workshops

<b>Year</b>	<b>Actual</b>
2015	2801

**Output #6**

**Output Measure**

- Number of "SOW-A Planting Companion" smart device downloads

<b>Year</b>	<b>Actual</b>
2015	4040

**Output #7**

**Output Measure**

- Number of Beef Cattle Performance Programs to Enhance Profitability (BCIA) activities

<b>Year</b>	<b>Actual</b>
2015	60

**Output #8**

**Output Measure**

- Number of Value -Added Livestock Marketing activities (educational trainings, planning meetings and marketing events)

<b>Year</b>	<b>Actual</b>
2015	42

**Output #9**

**Output Measure**

- Number of Food Processing and Testing for Entrepreneurs training programs

<b>Year</b>	<b>Actual</b>
2015	267

**Output #10**

**Output Measure**

- Number of food service worker trainings

<b>Year</b>	<b>Actual</b>
2015	102

**Output #11**

**Output Measure**

- Number of food safety for farmers markets trainings

<b>Year</b>	<b>Actual</b>
2015	14

**Output #12**

**Output Measure**

- Number of Food Safety Programs for Consumers

<b>Year</b>	<b>Actual</b>
2015	171

**Output #13**

**Output Measure**

- Number of cottage food law trainings

<b>Year</b>	<b>Actual</b>
2015	132

**Output #14**

**Output Measure**

- Number of GAP trainings conducted for fruit and vegetable producers

<b>Year</b>	<b>Actual</b>
2015	4

**Output #15**

**Output Measure**

- The number of Food Preservation in the Home trainings conducted



<b>Year</b>	<b>Actual</b>
2015	109

**Output #16**

**Output Measure**

- The number of pond to plate publications

<b>Year</b>	<b>Actual</b>
2015	3

**Output #17**

**Output Measure**

- The number of Pond to Plate trainings conducted

<b>Year</b>	<b>Actual</b>
2015	20

**Output #18**

**Output Measure**

- The number of people participating in Pond to Plate activities

<b>Year</b>	<b>Actual</b>
2015	1785

**Output #19**

**Output Measure**

- Number of food safety and food systems publications

<b>Year</b>	<b>Actual</b>
2015	114

**Output #20**

**Output Measure**

- The number of Sustainable Commercial Supply (Walmart) Initiative for Small and Limited-Resource Farmers trainings conducted

<b>Year</b>	<b>Actual</b>
2015	38

**Output #21**

**Output Measure**

- The number of Sustainable Commercial Supply (Walmart) Initiative for Small and Limited-Resource Farmers Project farm demonstrations

<b>Year</b>	<b>Actual</b>
2015	70

**Output #22**

**Output Measure**

- The number of Sustainable Commercial Supply (Walmart) Initiative for Small and Limited-Resource Farmers Project graduate students

<b>Year</b>	<b>Actual</b>
2015	2

**Output #23**

**Output Measure**

- The number of Sustainable Commercial Supply (Walmart) Initiative for Small and Limited-Resource Farmers Project research publications

<b>Year</b>	<b>Actual</b>
2015	3

**Output #24**

**Output Measure**

- Number of Sustainable Commercial Supply (Walmart) Initiative for Small and Limited-Resource Farmers Project abstracts

<b>Year</b>	<b>Actual</b>
2015	1

**Output #25**

**Output Measure**

- Number of Sustainable Commercial Supply (Walmart) Initiative for Small and Limited-Resource Farmers Project presentations given at scientific meetings

<b>Year</b>	<b>Actual</b>
2015	1

**Output #26**

**Output Measure**

- The number of AUFSI publications

<b>Year</b>	<b>Actual</b>
2015	114

**V(G). State Defined Outcomes**

**V. State Defined Outcomes Table of Content**

O. No.	OUTCOME NAME
1	Decreased incidence of cases of food poisoning (AL state stats, % deaths from Salmonella and other intestinal infections in 2004 = 1.6%). Program success will be indicated by a decline or no change in this incidence.
2	New technology(-ies) developed to monitor microbial contaminants. (Medium term outcome)
3	New professionals in workforce with training in food safety and security. (Long-term)
4	A major outcome will be the number of food service workers who participate in Extension sponsored Food Safety Training.
5	Success stories that best demonstrates the impacts of this program area will be used. These success stories contain the following elements: Why: Explain the reason the program was done, or the situation or problem that the program addressed What: Specifically what was done and how it was done. When: If this was a one-time event, the date it occurred. If it is was a series of events, or an on-going program, when it began. Where: Specific location-- the county or counties involved. Who and how many: The "who" includes both who did the program and who were the clients of the program, as well as how many people were served. So what: This is the part that gives the real meaning to "success". The basic question to be answered in this part is "what difference did this program make". The difference may be measured in terms of dollars, or in changes in habits, lifestyles or attitudes. Whenever possible use numbers to show the effect of the program. If it is not possible to use numbers, provide a qualitative measurement like client comments or another type of testimonial about the program. Since this program area is very broad in scope and contains multiple Extension Team Projects which have different outcome measures, the impacts for this program area are best measured in the number and quality of the success stories generated by the individuals who work on these projects. Therefore, one very significant outcome measure is the number of success stories generated.
6	Increase knowledge of alternate pest management strategies in home food gardens
7	Increase adoption of principles taught: IPM in home vegetable and fruit crops, #people who start/enhance their own food garden at home
8	The number of who assist teaching workshops and demonstrations
9	Increase knowledge and adoption of Good Agricultural Practices (GAP)and Good Handling Practices (GHP) for commercial food producers.
10	Increase knowledge and adoption of Better Processing of acidified foods by completing the Better Process Control School.
11	New technology developed to monitor microbial contaminants.
12	Number of Alabama Black Belt participants that increased knowledge of alternate pest management strategies in home food gardens

2015 Tuskegee University and Auburn University and Alabama A&M University Combined Research and Extension Annual Report of Accomplishments and Results

13	Number of disadvantaged farmers who increased production and revenue after adopting alternate pest management strategies
14	Number of disadvantaged farmers who increased knowledge of Good Agricultural Practices (GAP) for commercial food producers
15	Number of disadvantage farmers who adopted Good Agricultural Practices (GAP) for commercial food producers
16	Number of disadvantaged farmers who expanded an existing regional food system in AL, TN, and GA markets.
17	The number of disadvantaged farmers who are able to sell to commercial buyers and negotiate cooperative contracts
18	Economic impact dollar amount of value-added marketing as compared to conventional marketing channels
19	Number of participants that Increase knowledge of safe food systems practices
20	Number of individuals who passed all the required exams in food safety principles as well as the required documentation for a food processor to meet FDA standards.
21	Economic impact - dollar amount of Food Processing and Testing for Entrepreneurs
22	Number of participants that adopt improved safe food systems practices.
23	Economic impact -dollar amount- of The Seafood HACCP training
24	Number entrepreneurs with identified acidified food samples processed
25	Number of product formulations produced for food entrepreneur to increase product marketing to the public.
26	Number of participants that increased knowledge of safe food systems practice
27	Number of participants that adopt Good Agricultural Practices (GAP) for commercial food producers
28	The number of individuals who increased knowledge of cottage food laws
29	Economic impact of cottage food law certifications
30	Number of fruit and vegetable producers that adopt Good Agricultural Practices for commercial food producers
31	Number of participants that increased knowledge of improved safe food systems practices.
32	Number of people who adopt improved safe food systems practices at home

33	Number of participants that gained knowledge on issues affecting aquaculture production
34	Number of catfish producers who increase their knowledge of current and emerging diseases
35	Number of new technology(-ies) developed to monitor microbial contaminants.
36	Number of participants that increase knowledge of alternate pest management strategies in home food gardens.
37	Number of Sustainable Commercial Supply (Walmart) Initiative for Small and Limited-Resource Farmers Project participants that adopt Good Agricultural Practices (GAP) for commercial food producers
38	Number of participants that adopted principles taught: IPM in home food gardens
39	Number of participants who increased their knowledge about IPM in home food gardens
40	Number of commercial and seedstock beef cattle producers committed to the goal to produce better beef and genetics
41	Number of participants engaged in record keeping to enhance herd production and efficiency
42	Number of participants impacted by marketing opportunities and superior genetic selection
43	Economic impact of marketing opportunities for superior genetic breeding animals

**Outcome #1**

**1. Outcome Measures**

Decreased incidence of cases of food poisoning (AL state stats, % deaths from Salmonella and other intestinal infections in 2004 = 1.6%). Program success will be indicated by a decline or no change in this incidence.

Not Reporting on this Outcome Measure

**Outcome #2**

**1. Outcome Measures**

New technology(-ies) developed to monitor microbial contaminants. (Medium term outcome)

Not Reporting on this Outcome Measure

### **Outcome #3**

#### **1. Outcome Measures**

New professionals in workforce with training in food safety and security. (Long-term)

Not Reporting on this Outcome Measure

### **Outcome #4**

#### **1. Outcome Measures**

A major outcome will be the number of food service workers who participate in Extension sponsored Food Safety Training.

Not Reporting on this Outcome Measure

### **Outcome #5**

#### **1. Outcome Measures**

Success stories that best demonstrates the impacts of this program area will be used. These success stories contain the following elements: Why: Explain the reason the program was done, or the situation or problem that the program addressed What: Specifically what was done and how it was done. When: If this was a one-time event, the date it occurred. If it is was a series of events, or an on-going program, when it began. Where: Specific location-- the county or counties involved. Who and how many: The "who" includes both who did the program and who were the clients of the program, as well as how many people were served. So what: This is the part that gives the real meaning to "success". The basic question to be answered in this part is "what difference did this program make". The difference may be measured in terms of dollars, or in changes in habits, lifestyles or attitudes. Whenever possible use numbers to show the effect of the program. If it is not possible to use numbers, provide a qualitative measurement like client comments or another type of testimonial about the program. Since this program area is very broad in scope and contains multiple Extension Team Projects which have different outcome measures, the impacts for this program area are best measured in the number and quality of the success stories generated by the individuals who work on these projects. Therefore, one very significant outcome measure is the number of success stories generated.

Not Reporting on this Outcome Measure

### **Outcome #6**

#### **1. Outcome Measures**

Increase knowledge of alternate pest management strategies in home food gardens

Not Reporting on this Outcome Measure

**Outcome #7**

**1. Outcome Measures**

Increase adoption of principles taught: IPM in home vegetable and fruit crops, #people who start/enhance their own food garden at home

Not Reporting on this Outcome Measure

**Outcome #8**

**1. Outcome Measures**

The number of who assist teaching workshops and demonstrations

Not Reporting on this Outcome Measure

**Outcome #9**

**1. Outcome Measures**

Increase knowledge and adoption of Good Agricultural Practices (GAP)and Good Handling Practices (GHP) for commercial food producers.

Not Reporting on this Outcome Measure

**Outcome #10**

**1. Outcome Measures**

Increase knowledge and adoption of Better Processing of acidified foods by completing the Better Process Control School.

Not Reporting on this Outcome Measure

**Outcome #11**

**1. Outcome Measures**

New technology developed to monitor microbial contaminants.

Not Reporting on this Outcome Measure

## **Outcome #12**

### **1. Outcome Measures**

Number of Alabama Black Belt participants that increased knowledge of alternate pest management strategies in home food gardens

### **2. Associated Institution Types**

- 1890 Extension
- 1890 Research

### **3a. Outcome Type:**

Change in Knowledge Outcome Measure

### **3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2015	30

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

#### **Issue (Who cares and Why)**

Small and historically disadvantaged farmers, including women, military veterans, and new and beginning farmers in Alabama Black and other surrounding Counties have been excluded from agricultural programs, denied access to farm programs, underfunded in accessible programs, and have had little to no access to viable marketing opportunities for sale of their vegetables and produce necessary for sustainability and profitability. In addition, lack of IPM knowledge results in major economic losses either from crop losses or application cost associated with excessive pesticide application and over-reliance on pesticides in the quest to manage pests.

#### **What has been done**

Hands-on training, workshops, and one-on-one follow up sessions were used to assist historically disadvantaged farmers to be able to supply produce commercially. Topics included: procedures for negotiating price points with buyers; developing cold chain management systems for crop storage, transit, and processing; methods for properly packaging and storing produce; how to cultivate and build mutually beneficial relationships with commercial buyers; scale-appropriate integrated pest management (IPM) and grading; and, farmers' cooperative management. Direct pest management assistance and GAP certification were also given to farmers in workshop settings and on-farm.

#### **Results**

Of the fifty farmers that participated, thirty farmers are now aware that the identify and spray method of pest management is not economically, ecologically, and environmentally sound. They are now aware that not all pesticides are effective against all pests. Ability to correctly identify vegetable pests of major economic importance increased by an average of 70%. Knowledge on the various tactics (apart from use of pesticides) increased by about 60%. Knowledge on timely application of pesticides increased by about 50%



Knowledge on the use of relevant economic thresholds for major pests of vegetables increased by about 65%.

#### 4. Associated Knowledge Areas

KA Code	Knowledge Area
216	Integrated Pest Management Systems

#### Outcome #13

##### 1. Outcome Measures

Number of disadvantaged farmers who increased production and revenue after adopting alternate pest management strategies

##### 2. Associated Institution Types

- 1890 Extension
- 1890 Research

##### 3a. Outcome Type:

Change in Condition Outcome Measure

##### 3b. Quantitative Outcome

Year	Actual
2015	2

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

###### **Issue (Who cares and Why)**

Small and historically disadvantaged farmers, including women, military veterans, and new and beginning farmers in Alabama Black and other surrounding Counties have been excluded from agricultural programs, denied access to farm programs, underfunded in accessible programs, and have had little to no access to viable marketing opportunities for sale of their vegetables and produce necessary for sustainability and profitability. In addition, lack of IPM knowledge results in major economic losses either from crop losses or application cost associated with excessive pesticide application and over-reliance on pesticides in the quest to manage pests.

###### **What has been done**

Hands-on training, workshops, and one-on-one follow up sessions were used to assist historically disadvantaged farmers to be able to supply produce commercially. Topics included: procedures for negotiating price points with buyers; developing cold chain management systems for crop storage, transit, and processing; methods for properly packaging and storing produce; how to cultivate and build mutually beneficial relationships with commercial buyers; scale-appropriate integrated pest management (IPM) and grading; and, farmers' cooperative management. Direct pest management assistance and GAP certification were also given to farmers in workshop settings and on-farm.

### Results

As a result of adopting IPM strategies and recommendations two farmers doubled their production and revenues for the crops sold in the program

#### 4. Associated Knowledge Areas

KA Code	Knowledge Area
216	Integrated Pest Management Systems

#### Outcome #14

##### 1. Outcome Measures

Number of disadvantaged farmers who increased knowledge of Good Agricultural Practices (GAP) for commercial food producers

##### 2. Associated Institution Types

- 1890 Extension
- 1890 Research

##### 3a. Outcome Type:

Change in Knowledge Outcome Measure

##### 3b. Quantitative Outcome

Year	Actual
2015	40

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

###### Issue (Who cares and Why)

Small and historically disadvantaged farmers, including women, military veterans, and new and beginning farmers in Alabama Black and other surrounding Counties have been excluded from agricultural programs, denied access to farm programs, underfunded in accessible programs, and have had little to no access to viable marketing opportunities for sale of their vegetables and produce necessary for sustainability and profitability. In addition, lack of IPM knowledge results in major economic losses either from crop losses or application cost associated with excessive pesticide application and over-reliance on pesticides in the quest to manage pests. GAP certification protects the food system.

###### What has been done

Hands-on training, workshops, and one-on-one follow up sessions were used to assist historically disadvantaged farmers to be able to supply produce commercially. Topics included: procedures for negotiating price points with buyers; developing cold chain management systems for crop storage, transit, and processing; methods for properly packaging and storing produce; how to cultivate and build mutually beneficial relationships with commercial buyers; scale-appropriate integrated pest management (IPM) and grading; and, farmers cooperative management. Farmers

were trained and assisted to become GAP certified.

**Results**

Disadvantage farmers from over 40 farms received Good Agricultural Practice training, increasing their knowledge of food safety fundamentals.

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
711	Ensure Food Products Free of Harmful Chemicals, Including Residues from Agricultural and Other Sources
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins

**Outcome #15**

**1. Outcome Measures**

Number of disadvantage farmers who adopted Good Agricultural Practices (GAP) for commercial food producers

**2. Associated Institution Types**

- 1890 Extension
- 1890 Research

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2015	16

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

**Issue (Who cares and Why)**

Small and historically disadvantaged farmers, including women, military veterans, and new and beginning farmers in Alabama Black and other surrounding Counties have been excluded from agricultural programs, denied access to farm programs, underfunded in accessible programs, and have had little to no access to viable marketing opportunities for sale of their vegetables and produce necessary for sustainability and profitability. In addition, lack of IPM knowledge results in major economic losses either from crop losses or application cost associated with excessive pesticide application and over-reliance on pesticides in the quest to manage pests. GAP certification protects the food system.

**What has been done**

Hands-on training, workshops, and one-on-one follow up sessions were used to assist historically

disadvantaged farmers to be able to supply produce commercially. Topics included: procedures for negotiating price points with buyers; developing cold chain management systems for crop storage, transit, and processing; methods for properly packaging and storing produce; how to cultivate and build mutually beneficial relationships with commercial buyers; scale-appropriate integrated pest management (IPM) and grading; and, farmers cooperative management. Farmers were trained and assisted to become GAP certified.

**Results**

Sixteen (16) farmers were GAP certified for one to three crops. Two farmers were able to sell to other commercial buyers, and the cooperative negotiated contracts with three potential markets.

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
711	Ensure Food Products Free of Harmful Chemicals, Including Residues from Agricultural and Other Sources
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins

**Outcome #16**

**1. Outcome Measures**

Number of disadvantaged farmers who expanded an existing regional food system in AL, TN, and GA markets.

**2. Associated Institution Types**

- 1890 Extension
- 1890 Research

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2015	1

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

**Issue (Who cares and Why)**

Small and historically disadvantaged farmers, including women, military veterans, and new and beginning farmers in Alabama Black and other surrounding Counties have been excluded from agricultural programs, denied access to farm programs, underfunded in accessible programs, and have had little to no access to viable marketing opportunities for sale of their vegetables and produce necessary for sustainability and profitability. In addition, lack of IPM knowledge results in major economic losses either from crop losses or application cost associated with excessive pesticide application and over-reliance on pesticides in the quest to manage pests. GAP

certification protects the food system.

**What has been done**

Hands-on training, workshops, and one-on-one follow up sessions were used to assist historically disadvantaged farmers to be able to supply produce commercially. Topics included: procedures for negotiating price points with buyers; developing cold chain management systems for crop storage, transit, and processing; methods for properly packaging and storing produce; how to cultivate and build mutually beneficial relationships with commercial buyers; scale-appropriate integrated pest management (IPM) and grading; and, farmers cooperative management. Farmers were trained and assisted to become GAP certified.

**Results**

The project contributed to the expansion of the existing regional food system by introducing a local supplier to the Alabama, Tennessee, and Georgia markets.

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
711	Ensure Food Products Free of Harmful Chemicals, Including Residues from Agricultural and Other Sources
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins

**Outcome #17**

**1. Outcome Measures**

The number of disadvantaged farmers who are able to sell to commercial buyers and negotiate cooperative contracts

**2. Associated Institution Types**

- 1890 Extension
- 1890 Research

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2015	2

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

**Issue (Who cares and Why)**

Small and historically disadvantaged farmers, including women, military veterans, and new and beginning farmers in Alabama Black and other surrounding Counties have been excluded from

agricultural programs, denied access to farm programs, underfunded in accessible programs, and have had little to no access to viable marketing opportunities for sale of their vegetables and produce necessary for sustainability and profitability. In addition, lack of IPM knowledge results in major economic losses either from crop losses or application cost associated with excessive pesticide application and over-reliance on pesticides in the quest to manage pests. GAP certification protects the food system.

**What has been done**

Hands-on training, workshops, and one-on-one follow up sessions were used to assist historically disadvantaged farmers to be able to supply produce commercially. Topics included: procedures for negotiating price points with buyers; developing cold chain management systems for crop storage, transit, and processing; methods for properly packaging and storing produce; how to cultivate and build mutually beneficial relationships with commercial buyers; scale-appropriate integrated pest management (IPM) and grading; and, farmers cooperative management. Farmers were trained and assisted to become GAP certified.

**Results**

Two farmers were able to sell to other commercial buyers, and the cooperative negotiated contracts with three potential markets.

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
711	Ensure Food Products Free of Harmful Chemicals, Including Residues from Agricultural and Other Sources
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins

**Outcome #18**

**1. Outcome Measures**

Economic impact dollar amount of value-added marketing as compared to conventional marketing channels

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2015	9200951

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

### **Issue (Who cares and Why)**

Education and guidance for beef cattle producers in adding value and marketing options to market feeder calves in economic units and breeding animals, such as bulls and replacement heifers. For feeder calf events, documentation supplying the description of the feeder calves, which includes breed composition, calf sex, average weight, number of head, immunization history, treatments such as castration method, growth stimulant implants and pre-conditioning history, is supplied. Documentation of performance information for BCIA bull evaluations and sales is generated for each marketing opportunity for beef cattle producers to understand the definitions and values of the performance information.

### **What has been done**

Three value-added feeder calf marketing events were held with educational assistance by ACES personnel. Four marketing events within BCIA were also held to market bulls, bred and open replacement heifers. Forty-two activities of educational trainings, planning meetings and marketing events were facilitated, which totaled to 17,227 contacts, which included 17,540 non-traceable and 6,526 traceable from 103 contact reports.

### **Results**

Increased revenue for participants of the Producers Feeder Calf Sale, the Southeast Alabama Feeder Calf Marketing Association (SAFE) Feeder Calf Sale and the Piedmont Cattle Marketing Association Feeder Calf Sale represent 5,149 head of Alabama bred and raised feeder calves worth over \$7.8 million. Forty Alabama beef cattle operations utilized opportunities for value-added marketing in these 3 highlighted feeder calf events. On average, an increased price per hundred pounds of \$18.00 for steers and \$8.00 for heifers, which resulted in \$170.01/steer and \$72.31/heifer in increased revenue in marketing in these marketing events over weekly livestock auction sales, as reported in the USDA Alabama Weekly Summary Report for the respective time period. Through breeding animal marketing, an economic impact of \$1,326,950.00 was reached from 503 head marketed (107 bulls, 333 bred heifers and 63 open heifers) from 66 participants to 118 different buyers.

## **4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
307	Animal Management Systems

### **Outcome #19**

#### **1. Outcome Measures**

Number of participants that Increase knowledge of safe food systems practices

#### **2. Associated Institution Types**

- 1862 Extension

#### **3a. Outcome Type:**

Change in Knowledge Outcome Measure

### 3b. Quantitative Outcome

Year	Actual
2015	65

### 3c. Qualitative Outcome or Impact Statement

#### Issue (Who cares and Why)

Entrepreneurs that wish to start a food business need to understand the laws, regulations and safety standards in the production of different food products. . Individuals hoping to start a food processing business need to understand the laws, regulations and safety standards in the production of different food products.

#### What has been done

A Food Entrepreneur Conference was opened to the public for anyone interested in gaining knowledge about how food enters the food supply. A conference was offered and topics ranged from writing a business plan to meeting FDA food processing standards. Two Better Process Control School Classes were held to teach the principles of safe food processing for acidified foods.

#### Results

Individuals attending the Entrepreneur Conference gained knowledge in the following topics: FDA food regulations and laws: How to write a business plan: How to open a food Truck business: Understanding the Cottage Food Law. How to get your product on the store shelf. Food Processors that started out as entrepreneurs spoke on the hard work it took to get their product into mass production.

### 4. Associated Knowledge Areas

KA Code	Knowledge Area
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins

### Outcome #20

#### 1. Outcome Measures

Number of individuals who passed all the required exams in food safety principles as well as the required documentation for a food processor to meet FDA standards.

#### 2. Associated Institution Types

- 1862 Extension

#### 3a. Outcome Type:

Change in Knowledge Outcome Measure



**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2015	20

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

**Issue (Who cares and Why)**

Entrepreneurs that wish to start a food business need to understand the laws, regulations and safety standards in the production of different food products. . Individuals hoping to start a food processing business need to understand the laws, regulations and safety standards in the production of different food products.

**What has been done**

A Food Entrepreneur Conference was opened to the public for anyone interested in gaining knowledge about how food enters the food supply. A conference was offered and topics ranged from writing a business plan to meeting FDA food processing standards. Two Better Process Control School Classes were held to teach the principles of safe food processing for acidified foods.

**Results**

Individuals attending the two Better Process Control School Classes completed a rigorous set of 8 exams to meet the standards of the Food and Drug Administration (FDA) requirements of a food processor. All 20 individuals passed all the required exams and gained knowledge in food safety principles as well as the required documentation for a food processor to meet FDA standards. For the Better Process Control School all the attendees successfully completed the course and are now processing food products.

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins

**Outcome #21**

**1. Outcome Measures**

Economic impact - dollar amount of Food Processing and Testing for Entrepreneurs

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

Year	Actual
2015	100000

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

**Issue (Who cares and Why)**

Entrepreneurs that wish to start a food business need to understand the laws, regulations and safety standards in the production of different food products. . Individuals hoping to start a food processing business need to understand the laws, regulations and safety standards in the production of different food products.

**What has been done**

A Food Entrepreneur Conference was opened to the public for anyone interested in gaining knowledge about how food enters the food supply. A conference was offered and topics ranged from writing a business plan to meeting FDA food processing standards. Two Better Process Control School Classes were held to teach the principles of safe food processing for acidified foods.

**Results**

For the Better Process Control School all the attendees successfully completed the course and are now processing food products. The economic impact from these companies is presently in the 100,000 dollar range for the 20 small food processors which completed the classes.

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins

**Outcome #22**

**1. Outcome Measures**

Number of participants that adopt improved safe food systems practices.

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

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

**Issue (Who cares and Why)**

Seafood Processors need to understand and meet the laws, regulations and safety standards in the production of Seafood. Each Seafood Processor must have and utilize an individualized Hazard Analysis Critical Control Point (HACCP) Plan for their facility.

Food Entrepreneurs need to verify that their food products meet the acidified rule of being below 4.6 to be processed in a FDA approved facility

Food Entrepreneurs need to understand when a Nutrition Facts Label is required for their product.

**What has been done**

A Seafood HACCP Class was held to teach the principles of HACCP safe food processing of seafood. Each individual completed the course according to the standards set forth by the FDA and certified through the Association of Food and Drug Officials (AFDO). Food Entrepreneurs sent products to the Alabama Cooperative Extension System Food Testing Lab to verify the acidity or water activity of their food products. Food Entrepreneurs sent formulations of their food products to the Alabama Cooperative Extension System Food Testing Lab to create a Nutrition Facts Label for their products. Even if the entrepreneur does not need to place the label on their products because they met the small food manufacturing exemption, the entrepreneur may still choose to do so

**Results**

The Seafood HACCP attendees completed their HACCP Plans and were able to pass their FDA processing inspections and stay in business. The economic impact from 3 of these seafood processors is in the \$500,000 range of profit that comes to the state of Alabama. One processor has revenue of nearly a million dollars annually the class allowed them to pass their FDA inspection and continue to process seafood.

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins

**Outcome #23**

**1. Outcome Measures**

Economic impact -dollar amount- of The Seafood HACCP training

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2015	500000

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

**Issue (Who cares and Why)**

Seafood Processors need to understand and meet the laws, regulations and safety standards in the production of Seafood. Each Seafood Processor must have and utilize an individualized Hazard Analysis Critical Control Point (HACCP) Plan for their facility.

Food Entrepreneurs need to verify that their food products meet the acidified rule of being below 4.6 to be processed in a FDA approved facility

Food Entrepreneurs need to understand when a Nutrition Facts Label is required for their product.

**What has been done**

A Seafood HACCP Class was held to teach the principles of HACCP safe food processing of seafood. Each individual completed the course according to the standards set forth by the FDA and certified through the Association of Food and Drug Officials (AFDO). Food Entrepreneurs sent products to the Alabama Cooperative Extension System Food Testing Lab to verify the acidity or water activity of their food products. Food Entrepreneurs sent formulations of their food products to the Alabama Cooperative Extension System Food Testing Lab to create a Nutrition Facts Label for their products. Even if the entrepreneur does not need to place the label on their products because they met the small food manufacturing exemption, the entrepreneur may still choose to do so

**Results**

The economic impact from 3 of these seafood processors is in the \$500,000 range of profit that comes to the state of Alabama. One processor has revenue of nearly a million dollars annually the class allowed them to pass their FDA inspection and continue to process seafood.

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins

**Outcome #24**

**1. Outcome Measures**

Number entrepreneurs with identified acidified food samples processed

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

Year	Actual
2015	55

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

**Issue (Who cares and Why)**

Seafood Processors need to understand and meet the laws, regulations and safety standards in the production of Seafood. Each Seafood Processor must have and utilize an individualized Hazard Analysis Critical Control Point (HACCP) Plan for their facility.

Food Entrepreneurs need to verify that their food products meet the acidified rule of being below 4.6 to be processed in a FDA approved facility

Food Entrepreneurs need to understand when a Nutrition Facts Label is required for their product.

**What has been done**

A Seafood HACCP Class was held to teach the principles of HACCP safe food processing of seafood. Each individual completed the course according to the standards set forth by the FDA and certified through the Association of Food and Drug Officials (AFDO). Food Entrepreneurs sent products to the Alabama Cooperative Extension System Food Testing Lab to verify the acidity or water activity of their food products. Food Entrepreneurs sent formulations of their food products to the Alabama Cooperative Extension System Food Testing Lab to create a Nutrition Facts Label for their products. Even if the entrepreneur does not need to place the label on their products because they met the small food manufacturing exemption, the entrepreneur may still choose to do so

**Results**

Food Products were tested by an acidified food process authority in the ACES Food Testing Lab. The Food Entrepreneur sent in three samples that were from three separate batches of product. These samples were tested and a letter was sent to the Food Entrepreneurs to inform them if their products passed the standard of a pH of 4.6 or below or a Water Activity of 0.85. If the product did not meet the standard then the entrepreneur was given instructions as to how to modify the recipe or that the product would not meet the standard.

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins

**Outcome #25**

**1. Outcome Measures**

Number of product formulations produced for food entrepreneur to increase product marketing to the public.

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

Year	Actual
2015	115

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

**Issue (Who cares and Why)**

Seafood Processors need to understand and meet the laws, regulations and safety standards in the production of Seafood. Each Seafood Processor must have and utilize an individualized Hazard Analysis Critical Control Point (HACCP) Plan for their facility.

Food Entrepreneurs need to verify that their food products meet the acidified rule of being below 4.6 to be processed in a FDA approved facility

Food Entrepreneurs need to understand when a Nutrition Facts Label is required for their product.

**What has been done**

A Seafood HACCP Class was held to teach the principles of HACCP safe food processing of seafood. Each individual completed the course according to the standards set forth by the FDA and certified through the Association of Food and Drug Officials (AFDO). Food Entrepreneurs sent products to the Alabama Cooperative Extension System Food Testing Lab to verify the acidity or water activity of their food products. Food Entrepreneurs sent formulations of their food products to the Alabama Cooperative Extension System Food Testing Lab to create a Nutrition Facts Label for their products. Even if the entrepreneur does not need to place the label on their products because they met the small food manufacturing exemption, the entrepreneur may still choose to do so

**Results**

Food Product Formulations were sent to the ACES Food Testing Lab. The Product formulations were entered into the Nutrition Facts labeling program. A Nutrition Facts Label was produced for each food product. This allowed the food entrepreneur to market a more professional looking product to the public.

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
711	Ensure Food Products Free of Harmful Chemicals, Including Residues from Agricultural and Other Sources
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins

### **Outcome #26**

#### **1. Outcome Measures**

Number of participants that increased knowledge of safe food systems practice

#### **2. Associated Institution Types**

- 1862 Extension

#### **3a. Outcome Type:**

Change in Knowledge Outcome Measure

#### **3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2015	1381

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

##### **Issue (Who cares and Why)**

CDC estimates that each year roughly 1 in 6 Americans (or 48 million people) get sick, 128,000 are hospitalized, and 3,000 die of foodborne diseases. Not only is there a human loss with foodborne illnesses but there is also economic losses. Scharff in 2012 estimated the cost of foodborne illness in the US is as high as \$152 billion. This cost of illness includes treatment costs, the value of time lost at work and the cost of willingness to pay to prevent death. Of the 9040 foodborne disease outbreaks that were reported to the CDC from 1998 to 2004 4675 (52%) were associated with restaurants or delicatessens (including cafeterias and hotels). Therefore, food safety training for food service workers is a critical part toward reducing foodborne illnesses.

##### **What has been done**

A total of 102 food safety certification classes for food service workers were held in all 67 counties of Alabama

##### **Results**

A total of 1381 food service workers completed the certified food safety training. After the completion of a rigorous exam 1038 of the individuals were able to pass the exam for a 76% passage rate. When we looked at the education level of the individuals taking the exam the results followed in a regression line of the higher the education level the higher the passing rate. However, when we compared the time in the food service occupation there was no difference in the individuals that had worked less than three years and those that had worked 16 plus years.

#### 4. Associated Knowledge Areas

KA Code	Knowledge Area
504	Home and Commercial Food Service

#### Outcome #27

##### 1. Outcome Measures

Number of participants that adopt Good Agricultural Practices (GAP) for commercial food producers

##### 2. Associated Institution Types

- 1862 Extension
- 1890 Research

##### 3a. Outcome Type:

Change in Action Outcome Measure

##### 3b. Quantitative Outcome

Year	Actual
2015	150

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

###### **Issue (Who cares and Why)**

From 1990 to 2005 there have been 47 cases nationally of outbreaks related to produce. This is more than the outbreaks related to poultry, beef or seafood. Most of these have been traced back to restaurants (50%), but many of these foods may have come from locally grown produce as this is the current trend to buy local. Therefore, the Alabama Cooperative Extension System Food Safety and Quality Team has set a goal to do food safety education classes for those individuals that sell their produce at farmers markets.

###### **What has been done**

A total of 14 farmers market food safety classes for farmers that sell their produce at farmers markets were offered in 2015.

A farm to school program was offered for Madison County School System Child Nutrition Program employees.

###### **Results**

Over 150 individuals were in attendance for this meeting. A local farmer was in attendance and talked to them about the apples he would be selling to the schools. Also, the principles of food safety and the importance of serving fresh produce were emphasized. Several new recipes were prepared for the Child Nutrition Workers to sample which included using Alabama grown produce.



#### 4. Associated Knowledge Areas

KA Code	Knowledge Area
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins

#### Outcome #28

##### 1. Outcome Measures

The number of individuals who increased knowledge of cottage food laws

##### 2. Associated Institution Types

- 1862 Extension

##### 3a. Outcome Type:

Change in Knowledge Outcome Measure

##### 3b. Quantitative Outcome

Year	Actual
2015	766

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

###### Issue (Who cares and Why)

CDC estimates that each year roughly 1 in 6 Americans (or 48 million people) get sick, 128,000 are hospitalized, and 3,000 die of foodborne diseases. Not only is there a human loss with foodborne illnesses but there is also economic losses. Scharff in 2012 estimated the cost of foodborne illness in the US is as high as \$152 billion. This cost of illness includes treatment costs, the value of time lost at work and the cost of willingness to pay to prevent death. Therefore, food safety training for individuals that wish to sell foods prepared under the cottage foods law plays its part toward reducing foodborne illnesses.

###### What has been done

A total of 132 food safety cottage food law classes were taught and individuals from every county in Alabama attended these classes.

###### Results

A total of 990 individuals attended a cottage food law food safety class and 766 completed the exam required for the certificate to be issued.

#### 4. Associated Knowledge Areas

KA Code	Knowledge Area
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins

**Outcome #29**

**1. Outcome Measures**

Economic impact of cottage food law certifications

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

Year	Actual
2015	1500000

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

**Issue (Who cares and Why)**

CDC estimates that each year roughly 1 in 6 Americans (or 48 million people) get sick, 128,000 are hospitalized, and 3,000 die of foodborne diseases. Not only is there a human loss with foodborne illnesses but there is also economic losses. Scharff in 2012 estimated the cost of foodborne illness in the US is as high as \$152 billion. This cost of illness includes treatment costs, the value of time lost at work and the cost of willingness to pay to prevent death. Therefore, food safety training for individuals that wish to sell foods prepared under the cottage foods law plays its part toward reducing foodborne illnesses.

**What has been done**

A total of 132 food safety cottage food law classes were taught and individuals from every county in Alabama attended these classes.

**Results**

766 completed the exam required for the certificate to be issued. The majority of individuals were preparing baked goods, such as cakes, cookies, and candies. Some are selling fruit filled baked pies and other non-hazardous foods as allowed by the law. The law allows for the individuals which complete the food safety class to sell up to \$20,000 worth of food. The economic gain for the state of Alabama would be over 1.5 million dollars.

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins

**Outcome #30**

**1. Outcome Measures**

Number of fruit and vegetable producers that adopt Good Agricultural Practices for commercial food producers

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

Year	Actual
2015	17

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

**Issue (Who cares and Why)**

From 1990 to 2005 there have been 47 cases nationally of outbreaks related to produce. These are more than the outbreaks related to poultry, beef or seafood. GAP standards assist the farmer in growing, selling and transporting their produce to the market place. Recently, the Dole food processing company had to recall all their bagged salads processed in their Springfield Ohio facility and according to CDC, 15 people from eight states have become ill from Listeria contamination.

**What has been done**

The Alabama Cooperative Extension System Food Safety and Quality Team presented 3 GAP training sessions on developing their individual GAP standards. There were 21 individuals in attendance. Each was given a jump drive with all the forms and materials to complete the Standards of Operation for a GAP certification. In addition to these classes a Pesticide and Food Safety Class was offered in Hale County to introduce GAP and Pesticide standards to the farmers in attendance. There were a total of 72 farmers in attendance.

**Results**

Of the 21 farmers attending, 17 received their GAP certification from USDA. This allows these farmers to sell their produce to major retail outlets.

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins

**Outcome #31**

**1. Outcome Measures**

Number of participants that increased knowledge of improved safe food systems practices.

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Knowledge Outcome Measure

**3b. Quantitative Outcome**

Year	Actual
2015	3406

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

**Issue (Who cares and Why)**

Home preserved foods can cause foodborne illness and even death if not done properly. Botulism remains one of the most deadly toxins known to man. If low acid foods are not pressure canned then Clostridium Botulinum can grow in the anaerobic environment and produce the deadly botulism toxin.

**What has been done**

The Food Safety and Quality team taught a total of 109 Home Food Preservation classes to the general public. The attendance for the classes totaled 3406 individuals. The classes taught pressure canning, water bath canning, freezing and drying.

**Results**

Of the 3406 individuals attending the food preservation classes, all gained knowledge in the safe methods of pressure canning, water bath canning, freezing and drying foods.

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins

**Outcome #32**

**1. Outcome Measures**

Number of people who adopt improved safe food systems practices at home

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2015	310

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

**Issue (Who cares and Why)**

Home preserved foods can cause foodborne illness and even death if not done properly. Botulism remains one of the most deadly toxins known to man. If low acid foods are not pressure canned then Clostridium Botulinum can grow in the anaerobic environment and produce the deadly botulism toxin.

**What has been done**

The Food Safety and Quality team taught a total of 109 Home Food Preservation classes to the general public. The attendance for the classes totaled 3406 individuals. The classes taught pressure canning, water bath canning, freezing and drying.

**Results**

Of the 3406 individuals attending the food preservation classes, 310 completed the pre and post-test for the course. When asked in the pre-test: When you make Jams and Jellies do you need to water bath can them 126 answered correctly, but 184 answered incorrectly. In the post-test 274 gave the correct answer with still 36 still answering incorrectly.

When asked in the pre-test how many times they could reuse canning lids most (215) gave the correct answer of never. In the post-test 259 answered correctly that they should never reuse lids.

In the pre-test the participants were asked if they water bath can green beans and 159 said no but 122 said yes. In the post test the majority answered no to water bath canning green beans but still 42 said yes.

When asked in the pre-test if when you are canning do you screw the rings on as tight as possible, 164 gave the correct answer but in the post test 293 gave the correct answer.

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins

**Outcome #33**

**1. Outcome Measures**

Number of participants that gained knowledge on issues affecting aquaculture production

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Knowledge Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2015	0

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

**Issue (Who cares and Why)**

Catfish production is hampered by many diseases and other factors that reduce their profitability. At 20 meetings this year we delivered results from recent studies that can help catfish producers implement changes to their management that can have positive results to their farm operations.

**What has been done**

At these meetings the participants stated in written meeting evaluations that they gained knowledge in feeds/nutrition, aeration practices, virulent aeromonas hydrophila disease, phytase feeding, and production systems.

**Results**

At 20 meetings in 2015 catfish industry issues were discussed to determine priorities and updates on aquaculture research findings were provided. At these meetings the participants stated in written meeting evaluations that they gained knowledge in feeds/nutrition, aeration practices, virulent aeromonas hydrophila disease, phytase feeding, and production systems.

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
307	Animal Management Systems

**Outcome #34**

**1. Outcome Measures**

Number of catfish producers who increase their knowledge of current and emerging diseases

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Knowledge Outcome Measure

**3b. Quantitative Outcome**

Year	Actual
2015	209

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

**Issue (Who cares and Why)**

Catfish farming depends upon intensive feeding of fish within a closed, earthen pond system that is very conducive to infection from many different pathogens. Since 2009 catfish producers in Alabama have lost more than 15 million pounds of market-sized catfish due to an epidemic of motile *Aeromonas* septicemia. This newly emergent strain of *A. hydrophila* is highly virulent in healthy fish with no evident stress and can result in high pond mortalities exceeding 50% of stocked fish. Researchers at Auburn University and other institutions developed a molecular diagnostic test and typed the disease isolates as *A. hydrophila* based on biochemical and molecular phylogenetic analyses.

**What has been done**

Through two catfish farmer workshops, one industry update meeting, one aquatic animal health summit meeting, two virulent *Aeromonas hydrophila* update meetings and one Young Catfish Farmer workshop 209 catfish industry participants were updated on current knowledge concerning a new virulent disease causing \$10 million per year in catfish mortalities.

2015 field research trials included 3 treatments that could reduce virulent *Aeromonas hydrophila* (vAh) mortality of catfish in West Alabama. The vaccinated fish and probiotic amended feed treatments showed good survival relative to control fish. These results were presented to farmers at an update meeting.

**Results**

The vaccinated fish and probiotic amended feed treatments showed good survival relative to control fish. These results were presented to farmers at an update meeting

**4. Associated Knowledge Areas**

**KA Code**    **Knowledge Area**  
311            Animal Diseases

**Outcome #35**

**1. Outcome Measures**

Number of new technology(-ies) developed to monitor microbial contaminants.

**2. Associated Institution Types**

- 1862 Research

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2015	30

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

**Issue (Who cares and Why)**

New technologies for food safety need to be developed to ensure our food supply is safe. These new technologies need to be communicated to the various components of the food handling and preparation industries as well as the general public.

**What has been done**

The AUFISI was established as part of the AU Food Safety Initiative. A Food systems faculty consisting of members across a number of academic departments was established to conduct more collaborative education, research, and outreach. A series of food safety programs aimed at educating and training FDA food inspectors, food processors, and managers of food industries.

**Results**

30 new technology(-ies) developed to monitor microbial contaminants.

**4. Associated Knowledge Areas**

**KA Code**    **Knowledge Area**  
501            New and Improved Food Processing Technologies



**Outcome #36**

**1. Outcome Measures**

Number of participants that increase knowledge of alternate pest management strategies in home food gardens.

**2. Associated Institution Types**

- 1890 Extension
- 1890 Research

**3a. Outcome Type:**

Change in Knowledge Outcome Measure

**3b. Quantitative Outcome**

Year	Actual
2015	50

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

**Issue (Who cares and Why)**

Small and historically disadvantaged farmers, including women, military veterans, and new and beginning farmers in Alabama Black and other surrounding Counties have been excluded from agricultural programs, denied access to farm programs, underfunded in accessible programs, and have had little to no access to viable marketing opportunities for sale of their vegetables and produce necessary for sustainability and profitability. In addition, lack of IPM knowledge results in major economic losses either from crop losses or application cost associated with excessive pesticide application and over-reliance on pesticides in the quest to manage pests.

**What has been done**

Hands-on training, workshops, and one-on-one follow up sessions were used to assist historically disadvantaged farmers to be able to supply produce commercially. Topics included: procedures for negotiating price points with buyers; developing cold chain management systems for crop storage, transit, and processing; methods for properly packaging and storing produce; how to cultivate and build mutually beneficial relationships with commercial buyers; scale-appropriate integrated pest management (IPM) and grading; and, farmers' cooperative management. Direct pest management assistance and GAP certification were also given to farmers in workshop settings and on-farm.

**Results**

Thirty farmers are now aware that the identify and spray method of pest management is not economically, ecologically, and environmentally sound. They are now aware that not all pesticides are effective against all pests. Ability to correctly identify vegetable pests of major economic importance increased by an average of 70%. Knowledge on the various tactics (apart from use of pesticides) increased by about 60%. Knowledge on timely application of pesticides increased by about 50%

Knowledge on the use of relevant economic thresholds for major pests of vegetables increased by about 65%. Two farmers had increased, at least doubled, their production and revenues for the crops sold in the program.

#### 4. Associated Knowledge Areas

<b>KA Code</b>	<b>Knowledge Area</b>
216	Integrated Pest Management Systems

#### Outcome #37

##### 1. Outcome Measures

Number of Sustainable Commercial Supply (Walmart) Initiative for Small and Limited-Resource Farmers Project participants that adopt Good Agricultural Practices (GAP) for commercial food producers

##### 2. Associated Institution Types

- 1890 Extension
- 1890 Research

##### 3a. Outcome Type:

Change in Action Outcome Measure

##### 3b. Quantitative Outcome

Year	Actual
2015	0

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

###### **Issue (Who cares and Why)**

Small and historically disadvantaged farmers, including women, military veterans, and new and beginning farmers in Alabama Black and other surrounding Counties have been excluded from agricultural programs, denied access to farm programs, underfunded in accessible programs, and have had little to no access to viable marketing opportunities for sale of their vegetables and produce necessary for sustainability and profitability. In addition, lack of IPM knowledge results in major economic losses either from crop losses or application cost associated with excessive pesticide application and over-reliance on pesticides in the quest to manage pests. GAP certification protects the food system.

###### **What has been done**

Hands-on training, workshops, and one-on-one follow up sessions were used to assist historically disadvantaged farmers to be able to supply produce commercially. Topics included: procedures for negotiating price points with buyers; developing cold chain management systems for crop

storage, transit, and processing; methods for properly packaging and storing produce; how to cultivate and build mutually beneficial relationships with commercial buyers; scale-appropriate integrated pest management (IPM) and grading; and, farmers' cooperative management. Farmers were trained and assisted to become GAP certified.

**Results**

Sixteen (16) farmers were GAP certified for one to three crops. Two farmers were able to sell to other commercial buyers, and the cooperative negotiated contracts with three potential markets. The project overall, contributed to the expansion of the existing regional food system by introducing a local supplier to the Alabama, Tennessee, and Georgia markets.

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
711	Ensure Food Products Free of Harmful Chemicals, Including Residues from Agricultural and Other Sources
712	Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins

**Outcome #38**

**1. Outcome Measures**

Number of participants that adopted principles taught: IPM in home food gardens

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2015	368

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

**Issue (Who cares and Why)**

Extension professionals note a resurgent interest in vegetable gardens (Miller and Arnold, Journal of Extension, April 2012). Excluding the cost of garden labor, an average home garden produces \$508 worth of fruits and vegetables, after the average cost (\$209) of materials and irrigation. Local environmental conditions, gardening practices, and crop choices will influence the actual net value realized by individual gardeners. (Langellotto, Journal of Extension, April 2014).

**What has been done**

Demonstration gardens, workshops, webinars and other programs showed gardeners how to grow productive fruit and vegetable gardens at home. Based on a Rutgers report, a 100ft2 garden

could yield 150#/year (Rabin, Zinati, Ph.D., and Nitzsche, Monthly Briefing from Rutgers, Sept 2012). Achieving this average in Alabama, and possibly higher production, only happens with good management of resources and of pests. Our programs were conducted by REAs, CECs, and Master Gardener volunteers.

**Results**

73% of 505 participants surveyed adopted IPM strategies for home food gardens (n=368). Response examples are: "I found better ways to control and manage garden problems." "Understanding the pest life cycle helps me know when to treat." "I am better able to identify pests in my garden." "Using soap and neem oil while avoiding damage to the pollinators."..

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
102	Soil, Plant, Water, Nutrient Relationships

**Outcome #39**

**1. Outcome Measures**

Number of participants who increased their knowledge about IPM in home food gardens

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Knowledge Outcome Measure

**3b. Quantitative Outcome**

Year	Actual
2015	444

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

**Issue (Who cares and Why)**

Extension professionals note a resurgent interest in vegetable gardens (Miller and Arnold, Journal of Extension, April 2012). Excluding the cost of garden labor, an average home garden produces \$508 worth of fruits and vegetables, after the average cost (\$209) of materials and irrigation. Local environmental conditions, gardening practices, and crop choices will influence the actual net value realized by individual gardeners. (Langellotto, Journal of Extension, April 2014).

**What has been done**

Demonstration gardens, workshops, webinars and other programs showed gardeners how to grow productive fruit and vegetable gardens at home. Based on a Rutgers report, a 100ft2 garden could yield 150#/year (Rabin, Zinati, Ph.D., and Nitzsche, Monthly Briefing from Rutgers, Sept 2012). Achieving this average in Alabama, and possibly higher production, only happens with

good management of resources and of pests. Our programs were conducted by REAs, CECs, and Master Gardener volunteers.

**Results**

88% of 505 participants surveyed increased their knowledge of IPM strategies for home food gardens (n=444).

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
102	Soil, Plant, Water, Nutrient Relationships

**Outcome #40**

**1. Outcome Measures**

Number of commercial and seedstock beef cattle producers committed to the goal to produce better beef and genetics

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

Year	Actual
2015	283

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

**Issue (Who cares and Why)**

Alabama BCIA assists its members in reaching the goal to produce better beef and genetics by collectively using the best genetic and management tools. Implementation of beef cattle performance tools and increased knowledge of the utilization benefits of performance record keeping is delivered. Increased knowledge of beef genetics and the overall beef cattle industry is also gained.

**What has been done**

Thirteen educational meetings and conference content were held, 18 farm visits/consultation and 14 workshops/educational field days. Four marketing events within BCIA were also held to market bulls and bred and open heifers. The BCIA Record Keeping Program 2013-14 state data included the processing of 35 total herds.

**Results**

Alabama BCIA assists its members in reaching the goal to produce better beef and genetics by collectively using the best genetic and management tools. Implementation of beef cattle

performance tools and increased knowledge of the utilization benefits of performance tools is gained. Increased knowledge of beef genetics and the overall beef cattle industry is also gained. 2015-16 BCIA membership results in 283 total members, consisting of 118 commercial members (45 with 1 to 50 head and 73 with over 50 head), 85 purebred members, 64 commercial and purebred members, 13 junior members (aged 9 to 19 years) and 3 corporate members.

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
307	Animal Management Systems

**Outcome #41**

**1. Outcome Measures**

Number of participants engaged in record keeping to enhance herd production and efficiency

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

Year	Actual
2015	35

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

**Issue (Who cares and Why)**

Alabama BCIA assists its members in reaching the goal to produce better beef and genetics by collectively using the best genetic and management tools. Implementation of beef cattle performance tools and increased knowledge of the utilization benefits of performance record keeping is delivered. Increased knowledge of beef genetics and the overall beef cattle industry is also gained.

**What has been done**

Thirteen educational meetings and conference content were held, 18 farm visits/consultation and 14 workshops/educational field days. Four marketing events within BCIA were also held to market bulls and bred and open heifers. The BCIA Record Keeping Program 2013-14 state data included the processing of 35 total herds.

**Results**

Alabama BCIA assists its members in reaching the goal to produce better beef and genetics by collectively using the best genetic and management tools by providing the BCIA Commercial Record Keeping Program. Implementation of beef cattle performance tools and increased

knowledge of the utilization benefits of performance tools is gained. Increased knowledge of beef genetics and the overall beef cattle industry is also gained. Tabulated 2013-14 state data included the processing of 35 total herds for a state average weaning weight of 510 lbs. from 3,432 calves and an average weaning frame score of 5.4. One hundred forty-nine BCIA Gold Star Cow Awards were presented from a total of 3,491 Dams which represents 4.27% of all cows in 2013-14 with a total of 140,696 total animal records.

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
307	Animal Management Systems

**Outcome #42**

**1. Outcome Measures**

Number of participants impacted by marketing opportunities and superior genetic selection

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

Year	Actual
2015	184

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

**Issue (Who cares and Why)**

Alabama BCIA assists its members in reaching the goal to produce better beef and genetics by collectively using the best genetic and management tools. Implementation of beef cattle performance tools and increased knowledge of the utilization benefits of performance record keeping is delivered. Increased knowledge of beef genetics and the overall beef cattle industry is also gained.

**What has been done**

Thirteen educational meetings and conference content were held, 18 farm visits/consultation and 14 workshops/educational field days. Four marketing events within BCIA were also held to market bulls and bred and open heifers. The BCIA Record Keeping Program 2013-14 state data included the processing of 35 total herds.

**Results**

Overall for 2015 sale events, 503 head of superior genetic breeding animals were marketed from 66 participants to 118 buyers. Through breeding animal marketing events, 107 bulls were

marketed through 2015 BCIA events for an overall gross of \$242,050 with an average price per bull of \$3,197. Bulls were sold by 33 different participants to 72 different buyers. Three hundred thirty-three bred heifers were marketed for an overall gross of \$979,600 with an average price per bred heifer of \$2,942. Bred heifers were sold by 25 different participants to 34 different buyers. Sixty-three open heifers were marketed for an overall gross of \$105,300 with an average price per open heifer of \$1,671.43. Open heifers were sold by 8 different participants to 12 different buyers.

#### 4. Associated Knowledge Areas

KA Code	Knowledge Area
307	Animal Management Systems

#### Outcome #43

##### 1. Outcome Measures

Economic impact of marketing opportunities for superior genetic breeding animals

##### 2. Associated Institution Types

- 1862 Extension

##### 3a. Outcome Type:

Change in Condition Outcome Measure

##### 3b. Quantitative Outcome

Year	Actual
2015	1326950

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

###### **Issue (Who cares and Why)**

Alabama BCIA assists its members in reaching the goal to produce better beef and genetics by collectively using the best genetic and management tools. Implementation of beef cattle performance tools and increased knowledge of the utilization benefits of performance record keeping is delivered. Increased knowledge of beef genetics and the overall beef cattle industry is also gained.

###### **What has been done**

Thirteen educational meetings and conference content were held, 18 farm visits/consultation and 14 workshops/educational field days. Four marketing events within BCIA were also held to market bulls and bred and open heifers. The BCIA Record Keeping Program 2013-14 state data included the processing of 35 total herds.



### Results

Overall for 2015 sale events, an economic impact of \$1,326,950.00 from 503 head marketed from 66 participants to 118 buyers.

#### 4. Associated Knowledge Areas

KA Code	Knowledge Area
307	Animal Management Systems

#### 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

#### V(I). Planned Program (Evaluation Studies)

##### Evaluation Results

**Sustainable Commercial Supply (Walmart) Initiative for Small and Limited-Resource Farmers Project**-Thirty farmers are now aware that the "identify and spray" method of pest management is not economically, ecologically, and environmentally sound. They are now aware that not all pesticides are effective against all pests. Ability to correctly identify vegetable pests of major economic importance increased by an average of 70%. Knowledge on the various tactics (apart from use of pesticides) increased by about 60%. Knowledge on timely application of pesticides increased by about 50% Knowledge on the use of relevant economic thresholds for major pests of vegetables increased by about 65%. **Two farmers doubled their production and revenues for the crops sold in the program.**

**GAP training for Disadvantage Farmers** -Sixteen (16) farmers were GAP certified for one to three crops. Two farmers were able to sell to other commercial buyers, and the cooperative negotiated contracts with three potential markets. The project overall, contributed to the expansion of the existing regional food system by introducing a local supplier to the Alabama, Tennessee, and Georgia markets.

**Value Added Livestock** -Overall for 2015 sale events, an economic impact of \$1,326,950.00 from 503 head marketed from 66 participants to 118 buyers. Through breeding animal marketing events, 107 bulls were marketed through 2015 BCIA events for an overall gross of \$242,050 with an average price per bull of \$3,197. Bulls were sold by 33 different participants to 72 different buyers. Three hundred thirty-three bred heifers were marketed for an overall gross of \$979,600 with an average price per bred heifer of

\$2,942. Bred heifers were sold by 25 different participants to 34 different buyers. Sixty-three open heifers were marketed for an overall gross of \$105,300 with an average price per open heifer of \$1,671.43. Open heifers were sold by 8 different participants to 12 different buyers.

**AUFSI**-Identifying gaps between knowledge and practice in production and distribution of local and regional foods for a more secure food supply chain. AUFSI's Food Entrepreneur Working Group was recently honored for their holistic approach to helping citizens develop and market safe new products to the public.

## Key Items of Evaluation

**Sustainable Commercial Supply (Walmart) Initiative for Small and Limited-Resource Farmers Project**- Knowledge of farmers of various aspects of IPM improved by percentages that ranged from 50-100%. Ability to correctly identify vegetable pests of major economic importance increased by an average of 70%. Knowledge on the various tactics (apart from use of pesticides) increased by about 60%. Knowledge on timely application of pesticides increased by about 50%

Knowledge on the use of relevant economic thresholds for major pests of vegetables increased by about 65%. **Two farmers doubled their production and revenues for the crops sold in the program.**

**GAP training for Disadvantage Farmers** -Sixteen (16) farmers were GAP certified for one to three crops. Two farmers were able to sell to other commercial buyers, and the cooperative negotiated contracts with three potential markets. The project overall, contributed to the expansion of the existing regional food system by introducing a local supplier to the Alabama, Tennessee, and Georgia markets.

**Value Added Livestock** -By producers utilizing proper management and health protocols, on average they realized an increased price per hundred pounds of \$18.00 for steers and \$8.00 for heifers, which resulted in \$170.01/steer and \$72.31/heifer in increased revenue in marketing in these marketing events over weekly livestock auction sales, as reported in the USDA Alabama Weekly Summary Report for the respective time period. Comparing price points between these feeder calf marketing events and USDA Alabama Weekly Summary Report for weight range and calf sex for these specific dates, 700750 lbs steers resulted in an average increase in revenue of \$155.63 per head and 750800 lbs steers had an increase of \$184.40 per head. In feeder heifers, 600650 lbs heifers resulted in an average increase of revenue of \$51.49 per head and 650700 lbs had an increase of 93.12 per head.

**AUFSI**-Identifying gaps between knowledge and practice in production and distribution of local and regional foods for a more secure food supply chain. AUFSI's Food Entrepreneur Working Group was recently honored for their holistic approach to helping citizens develop and market safe new products to the public.

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

**Program # 4**

**1. Name of the Planned Program**

Human nutrition, well-being, health and obesity

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
701	Nutrient Composition of Food	40%	20%	15%	15%
702	Requirements and Function of Nutrients and Other Food Components	0%	0%	10%	15%
703	Nutrition Education and Behavior	50%	40%	15%	13%
711	Ensure Food Products Free of Harmful Chemicals, Including Residues from Agricultural and Other Sources	0%	0%	5%	5%
724	Healthy Lifestyle	5%	30%	20%	15%
802	Human Development and Family Well-Being	0%	0%	5%	7%
805	Community Institutions, Health, and Social Services	0%	0%	10%	5%
806	Youth Development	0%	0%	10%	20%
903	Communication, Education, and Information Delivery	5%	10%	10%	5%
	<b>Total</b>	100%	100%	100%	100%

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

1. Actual amount of FTE/SYs expended this Program

**Auburn University**

Year: 2015	Extension		Research	
	1862	1890	1862	1890
<b>Plan</b>	98.6	16.5	10.0	10.0
<b>Actual Paid</b>	70.3	0.0	25.0	0.0
<b>Actual Volunteer</b>	0.0	0.0	0.0	0.0

**Alabama A&M University**

Year: 2015	Extension		Research	
	1862	1890	1862	1890

2015 Tuskegee University and Auburn University and Alabama A&M University Combined Research and Extension Annual Report of Accomplishments and Results

<b>Plan</b>	98.6	16.5	10.0	10.0
<b>Actual Paid</b>	0.0	8.1	0.0	1.7
<b>Actual Volunteer</b>	0.0	0.0	0.0	0.0

**Tuskegee University**

Year: 2015	Extension		Research	
	1862	1890	1862	1890
<b>Plan</b>	98.6	16.5	10.0	10.0
<b>Actual Paid</b>	0.0	3.8	0.0	5.3
<b>Actual Volunteer</b>	0.0	0.0	0.0	0.0

**2. Institution Name:** Auburn University

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

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
1092700	0	204260	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
1168485	0	204615	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
10665971	0	1566698	0

**2. Institution Name:** Alabama A&M University

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

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
0	604789	0	970401
1862 Matching	1890 Matching	1862 Matching	1890 Matching
0	604789	0	970401
1862 All Other	1890 All Other	1862 All Other	1890 All Other
0	1793647	0	0

**2. Institution Name:** Tuskegee University

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

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
0	300600	0	269202
1862 Matching	1890 Matching	1862 Matching	1890 Matching
0	206145	0	236950
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

**Body Quest**, a childhood obesity prevention initiative, employed community and public health approaches to address all levels of the Social Ecological Model.

**CHAMPION Youth** is designed to prevent and reduce risk factors of chronic diseases through healthy eating and physical activity. The curriculum is a series of six (6) lessons on nutrition, nutrients, and physical activity.

**TU Expanded Food Nutrition Education Program**- programming targeted both youth and their families (including adult participants) from 12 black belt counties.

**The Be Healthy Elementary School Initiative** -provided an environment for K-3rd graders, parents and teachers to participate in fun fitness in order to increase physical and other healthy behavior activities.

**Integrative Youth Obesity Program** activity involved African-American children ages 8-15 interactively engage in nutrition education activities which cover a wide range of topic from food choices to ingestion and metabolism and associated chronic diseases.

**Human Nutrition, Well being, Health and Obesity**- The Proposed project addresses the utilization of a multi-disciplinary and collaborative approach to reduce the incidence of Adolescent obesity. Research was conducted to prevent obesity in low income children by developing nutritional strategies to combat this disease.

**ALProHealth** is to implement evidence or practice-based strategies in the 14 counties to improve physical activity and nutrition, reduce obesity, and prevent and control diabetes, heart disease and stroke. In order to accomplish this goal, significant shifts through behavioral, environmental, system and policy efforts must occur.

**Molecular and cellular mechanisms obesity mapping**- Studies on identification of molecular and cellular mechanisms of obesity, mapping obesity-related traits in the genomes of model animal systems including pigs (especially the Mangalica breed), mice, and rats and determining the interactions of oxidative stress, insulin production, and blood sugar were conducted.

### 2. Brief description of the target audience

**Body Quest** -The target population eligible to receive nutrition education and obesity prevention services continues to focus on SNAP participants and low income individuals eligible to participate in SNAP or other means tested federal assistance programs, and individuals residing in communities with a significant low income population.

**Champion**- Urban Youth between the ages of 10-12 and their families.

**Integrative Youth Obesity Program** activity involved African-American children ages 8-15.

**TU ENFEP** -The target populations were low income families who depend mostly on the SNAP-Ed program with their children of school-going ages receiving free or reduced lunches at school. These

population has a median income of \$49,000 for (whites) \$28,780.00 (for African Americans) and \$36,731.00 (for Hispanics or Latinos). Female headed household were also included as they comprised nearly 50 percent of the minority serving population being served with the EFNEP.

**Be Healthy School4-** Elementary School Students Grades K-3, teachers and parents at George Washington Carver Elementary School, Macon County

**Human Nutrition, Well being, Health and Obesity-** Stakeholders, community health providers and educators, food scientists, nutritionists, dietitians, students (both K-12 and at our institutions), all state citizens.

**ALProHealth-** The project targets counties in Alabama with adult obesity rates of greater than 40%. The 14 counties are Barbour, Bibb, Bullock, Chambers, Coosa, Crenshaw, Cullman, Escambia, Greene, Lowndes, Macon, Pickens, Sumter and Wilcox.

**Molecular and cellular mechanisms obesity mapping-** Target audience includes the scientific community, commodity groups such as pork and beef producers, and producers within the Southeastern United States and specifically stakeholders residing in Alabama. Others audiences include undergraduate and graduate students interested in careers in animal and biomedical research.

### 3. How was eXtension used?

**Body Quest- SNAPEd** continues to provide annual accomplishment reports to the Community Nutrition Education Professional Community of Practice through eXtension.

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

##### 1. Standard output measures

2015	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
<b>Actual</b>	97465	56755	159221	5277

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

###### Patent Applications Submitted

Year: 2015  
Actual: 1

###### Patents listed

##### 3. Publications (Standard General Output Measure)

###### Number of Peer Reviewed Publications

2015	Extension	Research	Total
<b>Actual</b>	12	13	25

#### V(F). State Defined Outputs

##### Output Target

**Output #1**

**Output Measure**

- Publications  
Not reporting on this Output for this Annual Report

**Output #2**

**Output Measure**

- This Program will follow Outcome Evaluation Methods by Green and Kreuter, 1991. This type of evaluation will provide data concerning short-term effects of the program, including increased awareness and knowledge, expressed intentions to make recommended changes, and responses to public service announcements. The measures can be self-reported (interviews with the intended audience) in evident changes in the number of people who loose weight, and amount of weight lost, change in small steps to improved behavior and healthy lifestyles, etc. Not reporting on this Output for this Annual Report

**Output #3**

**Output Measure**

- Number of people participating in Right Bite nutrition classes

<b>Year</b>	<b>Actual</b>
2015	36

**Output #4**

**Output Measure**

- Number of Champion youth participants

<b>Year</b>	<b>Actual</b>
2015	264

**Output #5**

**Output Measure**

- Number of Champion basic nutrition classes/workshops conducted

<b>Year</b>	<b>Actual</b>
2015	65

**Output #6**

**Output Measure**

- Number of Champion physical activity lessons

<b>Year</b>	<b>Actual</b>
2015	50

**Output #7**

**Output Measure**

- Number of Champion in-service trainings

<b>Year</b>	<b>Actual</b>
2015	2

**Output #8**

**Output Measure**

- Number of Champion adult participants

<b>Year</b>	<b>Actual</b>
2015	436

**Output #9**

**Output Measure**

- Number of Champion adult basic nutrition classes/workshops conducted

<b>Year</b>	<b>Actual</b>
2015	140

**Output #10**

**Output Measure**

- Number of adult Champion physical activity lessons conducted

<b>Year</b>	<b>Actual</b>
2015	110

**Output #11**

**Output Measure**

- Number of Champion chronic disease lessons.

<b>Year</b>	<b>Actual</b>
2015	50

**Output #12**

**Output Measure**

- Number of Champion adaptive teaching and training curriculum modules

<b>Year</b>	<b>Actual</b>
2015	2



**Output #13**

**Output Measure**

- Number of Champion Radio PSAs

<b>Year</b>	<b>Actual</b>
2015	2

**Output #14**

**Output Measure**

- Number of Champion Health Fairs

<b>Year</b>	<b>Actual</b>
2015	12

**Output #15**

**Output Measure**

- Number of TEEN basic nutrition classes/workshops conducted

<b>Year</b>	<b>Actual</b>
2015	56

**Output #16**

**Output Measure**

- Number of people participating in TEEN nutrition classes

<b>Year</b>	<b>Actual</b>
2015	326

**Output #17**

**Output Measure**

- Number of TEEN food demonstrations conducted

<b>Year</b>	<b>Actual</b>
2015	20

**Output #18**

**Output Measure**

- Number of TEEN in-service trainings

<b>Year</b>	<b>Actual</b>
2015	4

**Output #19**

**Output Measure**

- Number of TEEN youth participants

<b>Year</b>	<b>Actual</b>
2015	326

**Output #20**

**Output Measure**

- Number of TEEN chronic disease lessons.

<b>Year</b>	<b>Actual</b>
2015	54

**Output #21**

**Output Measure**

- Number of people participating in TEEN physical activity

<b>Year</b>	<b>Actual</b>
2015	326

**Output #22**

**Output Measure**

- Number of students participating in Body Quest: Food of the Warrior.

<b>Year</b>	<b>Actual</b>
2015	6223

**Output #23**

**Output Measure**

- Number of adult AU SNAP- Ed participants

<b>Year</b>	<b>Actual</b>
2015	72817

**Output #24**

**Output Measure**

- Number of AU SNAP- Ed in-service trainings

<b>Year</b>	<b>Actual</b>
2015	7

**Output #25**

**Output Measure**

- AU- SNAP-Ed Number of places that provide healthy food options.

<b>Year</b>	<b>Actual</b>
2015	11

**Output #26**

**Output Measure**

- AU SNAP-Ed Number of places that provide opportunities for physical activity.

<b>Year</b>	<b>Actual</b>
2015	2

**Output #27**

**Output Measure**

- Number of AU SNAP-Ed facts sheets, newsletters, etc.

<b>Year</b>	<b>Actual</b>
2015	31549

**Output #28**

**Output Measure**

- Number of AU SNAP-Ed basic nutrition classes/workshops conducted

<b>Year</b>	<b>Actual</b>
2015	31549

**Output #29**

**Output Measure**

- Number of impressions for AU-SNAP-ED social marketing billboard campaign

<b>Year</b>	<b>Actual</b>
2015	36595920

**Output #30**

**Output Measure**

- Number of AU SNAP-ED adults and youth reached through policy, systems and environmental (PSE) strategies

<b>Year</b>	<b>Actual</b>
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2015 11124

**Output #31**

**Output Measure**

- Number of hours for AU SNAP- ED in-service training per educator

<b>Year</b>	<b>Actual</b>
2015	42

**Output #32**

**Output Measure**

- Number of youth who participated in AU SNAP-Ed nutrition education (unduplicated count)

<b>Year</b>	<b>Actual</b>
2015	24632

**Output #33**

**Output Measure**

- Number of youth who participated in SNAP-Ed nutrition education (contacts)

<b>Year</b>	<b>Actual</b>
2015	107689

**Output #34**

**Output Measure**

- Number of adults who participated in SNAP-Ed nutrition education (contacts)

<b>Year</b>	<b>Actual</b>
2015	67186

**Output #35**

**Output Measure**

- Number of hours third grade students participated in Body Quest

<b>Year</b>	<b>Actual</b>
2015	93495

**Output #36**

**Output Measure**

- Number of schools with at least a 50% free and reduced meal rate that participated in Body Quest

<b>Year</b>	<b>Actual</b>
2015	163

**Output #37**

**Output Measure**

- Number of billboards used in AU SNAP-ED social marketing campaign

<b>Year</b>	<b>Actual</b>
2015	157

**Output #38**

**Output Measure**

- Number of weeks AU SNAP-ED billboards were displayed

<b>Year</b>	<b>Actual</b>
2015	24

**Output #39**

**Output Measure**

- Number of adults participating in a phone survey for AU SNAP-ED billboard recall

<b>Year</b>	<b>Actual</b>
2015	4928

**Output #40**

**Output Measure**

- Number of adults participating in a phone survey who recalled seeing at least one AU SNAP-ED billboard

<b>Year</b>	<b>Actual</b>
2015	3252

**Output #41**

**Output Measure**

- Number of parents who participated in a AU SNAP-ED text messaging nutrition education program

<b>Year</b>	<b>Actual</b>
2015	3398

**Output #42**

**Output Measure**

- Number of text messages sent to participating Body Quest parents over a 15-week intervention

<b>Year</b>	<b>Actual</b>
2015	54

**Output #43**

**Output Measure**

- Number of weeks AU SNAP -ED text messages were sent to parents

<b>Year</b>	<b>Actual</b>
2015	52

**Output #44**

**Output Measure**

- Number of text messages sent to AU SNAP-ED parents over a one-year education period (unduplicated)

<b>Year</b>	<b>Actual</b>
2015	156

**Output #45**

**Output Measure**

- Number of AU SNAP- ED text messages sent to parents over a one-year education period (contacts)

<b>Year</b>	<b>Actual</b>
2015	402867

**Output #46**

**Output Measure**

- Number of partnerships with AU SNAP-Ed representatives that agreed to develop a plan for improving nutrition or physical activity practices where nutrition education is provided.

<b>Year</b>	<b>Actual</b>
2015	14

**Output #47**

**Output Measure**

- Number of Eat Healthy Be Active basic nutrition classes/workshops conducted

<b>Year</b>	<b>Actual</b>
2015	144

**Output #48**

**Output Measure**

- Number of people participating in EHBA nutrition classes

<b>Year</b>	<b>Actual</b>
2015	208

**Output #49**

**Output Measure**

- Number of EHBA physical activity lessons

<b>Year</b>	<b>Actual</b>
2015	114

**Output #50**

**Output Measure**

- Number of people participating in EHBA physical activity

<b>Year</b>	<b>Actual</b>
2015	209

**Output #51**

**Output Measure**

- Number of places that provide opportunities for physical activity.

<b>Year</b>	<b>Actual</b>
2015	19

**Output #52**

**Output Measure**

- Number of DEEP meal planning classes conducted

<b>Year</b>	<b>Actual</b>
2015	18

**Output #53**

**Output Measure**

- Number of people participating in DEEP meal planning classes

<b>Year</b>	<b>Actual</b>
2015	148

**Output #54**

**Output Measure**

- Number of DEEP in-service trainings

<b>Year</b>	<b>Actual</b>
2015	1

**Output #55**

**Output Measure**

- Number of DEEP chronic disease lessons.

<b>Year</b>	<b>Actual</b>
2015	592

**Output #56**

**Output Measure**

- Number of DEEP physical activity lessons

<b>Year</b>	<b>Actual</b>
2015	148

**Output #57**

**Output Measure**

- Number of people who receive diabetes self-management training.

<b>Year</b>	<b>Actual</b>
2015	148

**Output #58**

**Output Measure**

- Amount of financial support for diabetes self-management.

<b>Year</b>	<b>Actual</b>
2015	9937

**Output #59**

**Output Measure**

- Number of adult EFNEP participants

<b>Year</b>	<b>Actual</b>
2015	2915



**Output #60**

**Output Measure**

- Number of youth EFNEP participants

<b>Year</b>	<b>Actual</b>
2015	6058

**Output #61**

**Output Measure**

- Number of people in program families of adult EFNEP clients

<b>Year</b>	<b>Actual</b>
2015	11215

**Output #62**

**Output Measure**

- Number of EFNEP in-service trainings

<b>Year</b>	<b>Actual</b>
2015	5

**Output #63**

**Output Measure**

- Number of EFNEP basic nutrition classes/workshops conducted

<b>Year</b>	<b>Actual</b>
2015	18612

**Output #64**

**Output Measure**

- Number of pregnant teens and women participating in EFNEP

<b>Year</b>	<b>Actual</b>
2015	784

**Output #65**

**Output Measure**

- Number of adult EFNEP participating in text messaging nutrition education for lesson reinforcement

<b>Year</b>	<b>Actual</b>
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2015 88

**Output #66**

**Output Measure**

- Number of hours of basic nutrition education taught to adults completing EFNEP

<b>Year</b>	<b>Actual</b>
2015	19239

**Output #67**

**Output Measure**

- Number of sites where EFNEP nutrition classes conducted

<b>Year</b>	<b>Actual</b>
2015	558

**Output #68**

**Output Measure**

- Number of EFNEP community partnerships

<b>Year</b>	<b>Actual</b>
2015	443

**Output #69**

**Output Measure**

- Number of people participating in Right Bite nutrition classes

<b>Year</b>	<b>Actual</b>
2015	36

**Output #70**

**Output Measure**

- Number of Right Bite food demonstrations conducted

<b>Year</b>	<b>Actual</b>
2015	8

**Output #71**

**Output Measure**

- Number of people participating in Right Bite food demonstrations

<b>Year</b>	<b>Actual</b>
2015	36

**Output #72**

**Output Measure**

- Number of adult Urban EFNEP participants

<b>Year</b>	<b>Actual</b>
2015	128

**Output #73**

**Output Measure**

- Number of Urban EFNEP youth participants

<b>Year</b>	<b>Actual</b>
2015	179

**Output #74**

**Output Measure**

- Number of Urban SNAP- ED basic nutrition classes/workshops conducted

<b>Year</b>	<b>Actual</b>
2015	190

**Output #75**

**Output Measure**

- Number of Urban SNAP- ED food resource management classes conducted

<b>Year</b>	<b>Actual</b>
2015	190

**Output #76**

**Output Measure**

- Number of Urban SNAP- ED adult participants

<b>Year</b>	<b>Actual</b>
2015	2064

**Output #77**

**Output Measure**

- Number of Urban SNAP-ED youth participants

<b>Year</b>	<b>Actual</b>
2015	2619

**Output #78**

**Output Measure**

- Number of Urban SNAP-ED food demonstrations conducted

<b>Year</b>	<b>Actual</b>
2015	380

**Output #79**

**Output Measure**

- Number of Urban SNAP-Ed food safety classes conducted

<b>Year</b>	<b>Actual</b>
2015	190

**Output #80**

**Output Measure**

- Number of Urban SNAP- ED meal planning classes conducted

<b>Year</b>	<b>Actual</b>
2015	190

**Output #81**

**Output Measure**

- Number of Urban SNAP- Ed in-service trainings

<b>Year</b>	<b>Actual</b>
2015	2

**Output #82**

**Output Measure**

- Number of ALProHealth Community Needs Assessments conducted

<b>Year</b>	<b>Actual</b>
2015	14

**Output #83**

**Output Measure**

- Number of ALProHealth Community Needs Assessments conducted using primary data collection

<b>Year</b>	<b>Actual</b>
2015	14

**Output #84**

**Output Measure**

- Number of ALProHealth Community Physical Activity Access Assessments conducted using primary data collection

<b>Year</b>	<b>Actual</b>
2015	14

**Output #85**

**Output Measure**

- Number of ALProHealth Community Food Access Assessments conducted using primary data collection

<b>Year</b>	<b>Actual</b>
2015	14

**Output #86**

**Output Measure**

- Number of community members participating in ALProHealth community coalitions

<b>Year</b>	<b>Actual</b>
2015	183

**Output #87**

**Output Measure**

- Number of ALProHealth community coalitions

<b>Year</b>	<b>Actual</b>
2015	16

**Output #88**

**Output Measure**

- Number of state partnerships supporting ALProHealth

<b>Year</b>	<b>Actual</b>
2015	25

**Output #89**

**Output Measure**

- Number of ALProHealth technical assistance trainings

<b>Year</b>	<b>Actual</b>
2015	4

**Output #90**

**Output Measure**

- Number of ALProHealth in-service trainings

<b>Year</b>	<b>Actual</b>
2015	9

**Output #91**

**Output Measure**

- Number of places in ALProHealth communities that provide healthy food options

<b>Year</b>	<b>Actual</b>
2015	107

**Output #92**

**Output Measure**

- Number of ALProHealth communities with places that provide opportunities for physical activity.

<b>Year</b>	<b>Actual</b>
2015	85

**Output #93**

**Output Measure**

- Number of grant dollars applied for using ALProHealth funds as leverage

<b>Year</b>	<b>Actual</b>
2015	189318

**Output #94**

**Output Measure**

- Number of ALProHealth communities conducting nutrition education programs for adults

<b>Year</b>	<b>Actual</b>
2015	11

**Output #95**

**Output Measure**

- Number of ALProHealth communities conducting Body Quest, a childhood obesity prevention initiative for third graders

<b>Year</b>	<b>Actual</b>
2015	14

**Output #96**

**Output Measure**

- Number of ALProHealth communities conducting Eat Healthy Be Active workshops

<b>Year</b>	<b>Actual</b>
2015	5

**Output #97**

**Output Measure**

- Number of ALProHealth communities supporting health fairs

<b>Year</b>	<b>Actual</b>
2015	7

**Output #98**

**Output Measure**

- Number of ALProHealth communities establishing or enhancing a school garden

<b>Year</b>	<b>Actual</b>
2015	1

**Output #99**

**Output Measure**

- Number of ALProHealth communities establishing or enhancing a community garden

<b>Year</b>	<b>Actual</b>
2015	6

**Output #100**

**Output Measure**

- Number of ALProHealth communities conducting raised-bed or container gardening workshops

<b>Year</b>	<b>Actual</b>
2015	1

**Output #101**

**Output Measure**

- Number of ALProHealth communities providing educational tours of farms

<b>Year</b>	<b>Actual</b>
2015	4

**Output #102**

**Output Measure**

- Number of ALProHealth communities promoting healthy lifestyle choices through signage

<b>Year</b>	<b>Actual</b>
2015	7

**Output #103**

**Output Measure**

- Number of ALProHealth communities establishing or enhancing a Farmers Market

<b>Year</b>	<b>Actual</b>
2015	5

**Output #104**

**Output Measure**

- Number of ALProHealth communities training Farmers Market producers to accept SNAP, WIC, and SFMNP vouchers

<b>Year</b>	<b>Actual</b>
2015	3

**Output #105**

**Output Measure**

- Number of ALProHealth communities providing an educational reinforcement tool to purchase healthy food items

<b>Year</b>	<b>Actual</b>
2015	1

**Output #106**

**Output Measure**

- Number of ALProHealth communities developing a guide for local farm produce purchases

<b>Year</b>	<b>Actual</b>
2015	1

**Output #107**

**Output Measure**

- Number of ALProHealth communities working with food stores to promote healthy food choices



<b>Year</b>	<b>Actual</b>
2015	2

**Output #108**

**Output Measure**

- Number of ALProHealth communities increasing the distribution of fruits and vegetables at food banks

<b>Year</b>	<b>Actual</b>
2015	1

**Output #109**

**Output Measure**

- Number of ALProHealth communities promoting healthy food venues through local media

<b>Year</b>	<b>Actual</b>
2015	1

**Output #110**

**Output Measure**

- Number of ALProHealth communities installing outdoor fitness equipment

<b>Year</b>	<b>Actual</b>
2015	5

**Output #111**

**Output Measure**

- Number of ALProHealth communities establishing an indoor community fitness facility

<b>Year</b>	<b>Actual</b>
2015	3

**Output #112**

**Output Measure**

- Number of ALProHealth communities installing playground equipment

<b>Year</b>	<b>Actual</b>
2015	1

**Output #113**

**Output Measure**

- Number of ALProHealth communities enhancing aesthetics of local parks

<b>Year</b>	<b>Actual</b>
2015	3

**Output #114**

**Output Measure**

- Number of ALProHealth communities enhancing safety of local parks

<b>Year</b>	<b>Actual</b>
2015	3

**Output #115**

**Output Measure**

- Number of ALProHealth communities establishing new walking or biking trails

<b>Year</b>	<b>Actual</b>
2015	2

**Output #116**

**Output Measure**

- Number of ALProHealth communities repairing existing trails

<b>Year</b>	<b>Actual</b>
2015	1

**Output #117**

**Output Measure**

- Number of ALProHealth communities establishing adult or youth sports leagues

<b>Year</b>	<b>Actual</b>
2015	1

**Output #118**

**Output Measure**

- Number of ALProHealth communities promoting a fitness and wellness program

<b>Year</b>	<b>Actual</b>
2015	3

**Output #119**

**Output Measure**

- Number of ALProHealth communities establishing a walking or exercise group

<b>Year</b>	<b>Actual</b>
2015	2

**Output #120**

**Output Measure**

- Number of ALProHealth communities engaging professional consultants to improve local parks

<b>Year</b>	<b>Actual</b>
2015	3

**Output #121**

**Output Measure**

- Number of ALProHealth communities promoting physical activity through signage

<b>Year</b>	<b>Actual</b>
2015	1

**Output #122**

**Output Measure**

- Number of ALProHealth communities completing a funding proposal and submitting a 3-year workplan

<b>Year</b>	<b>Actual</b>
2015	16

**Output #123**

**Output Measure**

- Number of ALProHealth communities conducting the Diabetes Empowerment Education Program classes

<b>Year</b>	<b>Actual</b>
2015	6

**Output #124**

**Output Measure**

- Number of Be Healthy Elementary School Initiative adult participants

<b>Year</b>	<b>Actual</b>
2015	75

**Output #125**

**Output Measure**

- Number of Be Healthy Elementary School Initiative youth participants

<b>Year</b>	<b>Actual</b>
2015	540

**Output #126**

**Output Measure**

- Number of Be Health School Initiative participants weighed-in

<b>Year</b>	<b>Actual</b>
2015	20

**Output #127**

**Output Measure**

- Number of Be Healthy School Initiative people participating in physical activity

<b>Year</b>	<b>Actual</b>
2015	2

**Output #128**

**Output Measure**

- Number of places that provide opportunities for Be Healthy School Initiative physical activity

<b>Year</b>	<b>Actual</b>
2015	2

**Output #129**

**Output Measure**

- Number of adaptive teaching and training curriculum modules developed for Integrative Approach to Prevention and Reduction of Overweight in Childhood Obesity in the Alabama Black Belt

<b>Year</b>	<b>Actual</b>
2015	12

**Output #130**

**Output Measure**

- Number of facts sheets, newsletters developed for Integrative Approach to Prevention and Reduction of Overweight in Childhood Obesity in the Alabama Black Belt

<b>Year</b>	<b>Actual</b>
2015	9

**Output #131**

**Output Measure**

- Number of food preparation classes conducted for Integrative Approach to Prevention and Reduction of Overweight in Childhood Obesity in the Alabama Black Belt

<b>Year</b>	<b>Actual</b>
2015	1

**Output #132**

**Output Measure**

- Number of people participating in Integrative Approach to Prevention and Reduction of Overweight in Childhood Obesity in the Alabama Black Belt food preparation classes

<b>Year</b>	<b>Actual</b>
2015	110

**Output #133**

**Output Measure**

- Number of Integrative Approach to Prevention and Reduction of Overweight in Childhood Obesity in the Alabama Black Belt participants weighed-in

<b>Year</b>	<b>Actual</b>
2015	110

**Output #134**

**Output Measure**

- Number of people participating in physical activity for Integrative Approach to Prevention and Reduction of Overweight in Childhood Obesity in the Alabama Black Belt

<b>Year</b>	<b>Actual</b>
2015	110

**Output #135**

**Output Measure**

- Number of TU EFNEP basic nutrition classes/workshops conducted

<b>Year</b>	<b>Actual</b>
2015	17

**Output #136**

**Output Measure**

- Number of people participating in TU EFNEP nutrition classes

<b>Year</b>	<b>Actual</b>
2015	981

**Output #137**

**Output Measure**

- Number of TU EFNEP food resource management classes conducted

<b>Year</b>	<b>Actual</b>
2015	17

**Output #138**

**Output Measure**

- Number of people participating in the TU ENFEP food resource management classes

<b>Year</b>	<b>Actual</b>
2015	329

**Output #139**

**Output Measure**

- Number of TU EFNEP food safety classes conducted

<b>Year</b>	<b>Actual</b>
2015	8

**Output #140**

**Output Measure**

- Number of people participating in TU EFNEP food safety classes

<b>Year</b>	<b>Actual</b>
2015	629

**Output #141**

**Output Measure**

- Number of TU EFNEP meal planning classes conducted

<b>Year</b>	<b>Actual</b>
2015	686

**Output #142**

**Output Measure**

- Number of TU EFNEP food preparation classes conducted

<b>Year</b>	<b>Actual</b>
2015	24

**Output #143**

**Output Measure**

- The number of people participating in TU EFNEP food preparation classes

<b>Year</b>	<b>Actual</b>
2015	981

**Output #144**

**Output Measure**

- Number of TU EFNEP food demonstrations conducted

<b>Year</b>	<b>Actual</b>
2015	24

**Output #145**

**Output Measure**

- Number of people participating in TU EFNEP food demonstrations

<b>Year</b>	<b>Actual</b>
2015	18

**Output #146**

**Output Measure**

- Number of people participating in TU EFNEP food preparation classes

<b>Year</b>	<b>Actual</b>
2015	40

**Output #147**

**Output Measure**

- Number of TU EFNEP in-service trainings

<b>Year</b>	<b>Actual</b>
2015	6

**Output #148**

**Output Measure**

- Number of TU EFNEP adult participants

<b>Year</b>	<b>Actual</b>
2015	329

**Output #149**

**Output Measure**

- Number of TU EFNEP youth participants

<b>Year</b>	<b>Actual</b>
2015	686

**Output #150**

**Output Measure**

- Number of TU EFNEP physical activity lessons

<b>Year</b>	<b>Actual</b>
2015	16

**Output #151**

**Output Measure**

- Number of people participating in TU EFNEP physical activity

<b>Year</b>	<b>Actual</b>
2015	981

**Output #152**

**Output Measure**

- Number of TU EFNEP facts sheets, newsletters, etc

<b>Year</b>	<b>Actual</b>
2015	10

**Output #153**

**Output Measure**

- Number of adaptive teaching and training curriculum modules developed for TU EFNEP

<b>Year</b>	<b>Actual</b>
2015	2

**Output #154**

**Output Measure**

- Number of new food products developed for TU EFNEP



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<b>Year</b>	<b>Actual</b>
2015	2

**V(G). State Defined Outcomes**

**V. State Defined Outcomes Table of Content**

O. No.	OUTCOME NAME
1	Optimal nutritional recommendations made available to citizens
2	Public awareness of the relationship of healthy food choices and wellbeing and obesity
3	Reduction in obesity and overweight rate (66.6% in 2008) in population and children, and reduction of the level of obesity
4	Health care cost will be lowered as a result of obesity reduction.
5	This program area will include numerous output activities and methods which are described/explained in the logic model. The success of many of these outcomes will be formal evaluations/measured by using individual activity evaluation forms designed specifically for each activity. The success of other activities and methods will be measured by the level of participation in the activity. In the target boxes below for each year, we are indicating the number of individual activities for this program area that will be formally evaluated using the evaluation instrument designed specifically for that activity.
6	CHAMPION Pre and Post Tests and Weight Management Observation
7	Summary of the data base questions for Human Nutrition Diet and Health and 4-H Youth Development of pre and post-tests results;24 hour food recall and behavior check-list summary.
8	The outcome is to prevent obesity in children, young adults, and other members of the families, which will decrease the risk of high blood pressure, diabetes, and heart diseases. The ultimate outcome is the improvement in the quality of life, by incorporating skills and change behavior; increasing the number of people following exercising guidelines (60-minutes, 5 days a week); the percent of participants using food guide pyramids and dietary guidelines will increase; and the percent of participants reporting improved quality of life will increase.
9	Means comparison of Champion youth participant's nutritional, physical activity and chronic diseases knowledge increased before and after education
10	Increased #/% of Champion participants' fruit and vegetable consumption combined
11	Number of Champion youth who increased physical activity to 60 minutes or more
12	Means comparison of Champion adults participant's nutritional, physical activity and chronic diseases knowledge increased before and after education
13	Increase in #/% of Champion participants that follow MyPlate/Dietary Guidelines recommendations
14	Increase in #/% of Champion participants who are physically active

15	Increase in the #/% knowledge of teenagers in the TEEN program
16	Increase in #/% of TEEN participants who are physically active
17	Number/% of treatment group participants who increase understanding of recommended daily fruit and vegetable servings from pre- to post-assessment and as compared to control group
18	Number/% of treatment group participants who increase fruit and vegetable consumption from pre- to post-assessment and as compared to control group
19	Number/% of treatment group participants who increase eating breakfast from pre- to post-assessment and as compared to control group
20	Percentage of improved eating habits before and after education
21	Number of treatment group participants who increase fruit and vegetable consumption from pre- to post-assessment and as compared to control group
22	Number of treatment group students who have increased availability of vegetables in the home from pre- to post-assessment and as compared to control group
23	Number of treatment group students who have increased accessibility of vegetables in the home from pre- to post-assessment and as compared to control group
24	Number of treatment group students who have increased parental modeling of vegetables in the home from pre- to post-assessment and as compared to control group
25	Number of treatment group students who have increased subjective norms related to eating vegetables from pre- to post-assessment and as compared to control group
26	Number of treatment group students who have increased perceived control related to eating vegetables from pre- to post-assessment and as compared to control group
27	Number of treatment group parents who have increased accessibility of vegetables in the home
28	Number of treatment group parents who have increased parental modeling of vegetables in the home from pre- to post-assessment and as compared to control group
29	Number of treatment group parents who have increased subjective norms related to eating vegetables from pre- to post-assessment and as compared to control group
30	Percentage of Body Quest parents participating in text messaging survey who reported buying more vegetables after Body Quest education
31	Percentage of Body Quest parents participating in text messaging survey who reported using tips from the text messages at least once
32	Percentage of Body Quest parents participating in text messaging survey who reported that their family eats more vegetables after Body Quest education
33	Percentage of Body Quest parents participating in text messaging survey who reported eating vegetables as snacks with their third grader

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34	Increase in the #/% of vending machines with healthy food and beverage choices
35	Increase in the #/% of people reached through a healthy retail initiative to increase access and appeal for healthy foods and beverages
36	Increase in the # of people with increased access and appeal for healthy foods through a community garden/emergency food setting partnership
37	Increase in the #/% of people reached through a healthy snack initiative at a faith-based event
38	Increase in the # of people who have access to healthier foods through school and community garden initiatives
39	Increase in the #/% of increased physical activity through walking trail initiatives
40	The number of youth with increased access to healthier food options at school through a school wellness committee
41	Number of adults increased physical activity to 30 minutes or more
42	Increase in the #/% of participants that understand basic nutrition concepts
43	Percentage of DEEP participants who eat five or more servings of fruits or vegetables 4 or more days of the week
44	The number of people with increased knowledge related to diabetes management.
45	The number of EFNEP adult participants that don't run out of food before the month end
46	The number of Moms-to-Be Who Showed a Positive Change in at Least One Food Group
47	The number of children who follow MyPlate/Dietary Guidelines recommendations
48	The number of people who choose the healthiest Carbohydrate Containing foods in the right amounts.
49	The number of Right Bite participants who learn Portion Control
50	The number of Right Bite participants who consume less sugar
51	The number of Right Bite participants who read nutrition labels
52	The number of Right Bite participants who consume less fat
53	The number of Right Bite participants who consume more fiber

54	The number of Right Bite participants who learned to control high blood pressure
55	The number of Urban EFNEP participants who prepare shopping list before shopping
56	The number of Urban EFNEP participants who read food labels when purchasing food
57	The number of Urban EFNEP participants who follow food safety tips
58	The number of Urban EFNEP participants who manage food dollars better
59	The number of Urban EFNEP participants who ran out of food less often before the end of the month
60	The number of Urban EFNEP participants who improved behaviors associated with healthy foods and beverages
61	The number of Urban EFNEP participants who increased consumption of fruits and vegetables
62	The number of Urban EFNEP youth who increased the consumption of fruits and vegetables.
63	The number of Urban EFNEP youth who increased knowledge about physical activity
64	The number of Urban EFNEP youth who increased physical activity
65	The number of Urban EFNEP youth who improve on food safety practices
66	The number of Urban SNAP-Ed participants who understand basic nutrition concepts
67	The number of Urban SNAP-Ed participants who are physically active
68	Increase in #/% of participants that follow MyPlate/Dietary Guidelines recommendations
69	The number of Urban SNAP-Ed participants who plan meals based on what's on hand, on sale, and in season
70	Number Urban SNAP-Ed participants who increase fruit and vegetable consumption
71	Increase in #/% of Urban SNAP-ED participants who read food labels when purchasing food
72	The number of ALProHealth Community Coalition members who increased knowledge of evidence-based strategies to combat obesity
73	The number of residents in ALProHealth ( Bibb County) who have access to healthier foods at grocery stores

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74	The number of children in ALProHealth community (Coosa County- Rockford) with increased opportunity for physical activity as a result playground equipment at the local park ProHealth community
75	the number of residents in ALProHealth communities ( Aliceville- Pickens County) with increased opportunity for physical activity as a result of outdoor fitness equipment
76	The number of residents in ALProHealth communities (Mt.Hebron- Greene County) with increased access to an affordable indoor fitness facility
77	The number of 3rd graders who adopted healthy behaviors in 14 ALProHealth counties
78	Increase in number of community members with access to healthier food options through a new or enhanced community garden
79	The number of ALProHealth community members with access to fresh, locally grown produce through enhancement or establishment of a Farmers Market.
80	Number of low resourced families in ALProHealth communities with increased access to healthy and affordable food from food banks
81	Increase in the number of ALProHealth community members with access to parks or walking trails with improved aesthetics and enhanced safety
82	Number of ALProHealth community members (Tuskegee- Macon County) with increased access to safe places for physical activity as a result of a renovated walking trail
83	the number of children who increased the consumption of healthier food and beverages through a faith based healthy snack initiative
84	Percent increase in the type of healthier food and beverage options available in vending machines in ALProHealth communities
85	Increase in % of participants who are physically active as a result of the Be Healthy School Initiative
86	Number (or %) of Be Healthy School Initiative participant who increase physical activity
87	The number (or %) of students who increase knowledge of healthy behaviors through participation in in-class nutritional education
88	Percent change of adult participants weight loss after participating in Be Healthy School Initiative
89	The number of TU- EFNEP participants who increase knowledge of basic nutrition concepts
90	The number of TU EFNEP participants increase physical activity
91	The number of Integrative Approach to Prevention and Reduction of Overweight in Childhood Obesity in the Alabama Black Belt participants that understand basic nutrition concepts
92	The number of Integrative Approach to Prevention and Reduction of Overweight in Childhood Obesity in the Alabama Black Belt participants who increased physical activity

93	The number of Integrative Approach to Prevention and Reduction of Overweight in Childhood Obesity in the Alabama Black Belt participants who demonstrate the ability to compare food labels
94	The number of Integrative Approach to Prevention and Reduction of Overweight in Childhood Obesity in the Alabama Black Belt participants who follow food safety tips
95	Increase knowledge among participants in high-obesity Alabama Counties about healthy behaviors associated with eating

**Outcome #1**

**1. Outcome Measures**

Optimal nutritional recommendations made available to citizens

Not Reporting on this Outcome Measure

**Outcome #2**

**1. Outcome Measures**

Public awareness of the relationship of healthy food choices and wellbeing and obesity

Not Reporting on this Outcome Measure

**Outcome #3**

**1. Outcome Measures**

Reduction in obesity and overweight rate (66.6% in 2008) in population and children, and reduction of the level of obesity

Not Reporting on this Outcome Measure

**Outcome #4**

**1. Outcome Measures**

Health care cost will be lowered as a result of obesity reduction.

Not Reporting on this Outcome Measure

### **Outcome #5**

#### **1. Outcome Measures**

This program area will include numerous output activities and methods which are described/explained in the logic model. The success of many of these outcomes will be formal evaluations/measured by using individual activity evaluation forms designed specifically for each activity. The success of other activities and methods will be measured by the level of participation in the activity. In the target boxes below for each year, we are indicating the number of individual activities for this program area that will be formally evaluated using the evaluation instrument designed specifically for that activity.

Not Reporting on this Outcome Measure

### **Outcome #6**

#### **1. Outcome Measures**

CHAMPION Pre and Post Tests and Weight Management Observation

Not Reporting on this Outcome Measure

### **Outcome #7**

#### **1. Outcome Measures**

Summary of the data base questions for Human Nutrition Diet and Health and 4-H Youth Development of pre and post-tests results;24 hour food recall and behavior check-list summary.

Not Reporting on this Outcome Measure

### **Outcome #8**

#### **1. Outcome Measures**

The outcome is to prevent obesity in children, young adults, and other members of the families, which will decrease the risk of high blood pressure, diabetes, and heart diseases. The ultimate outcome is the improvement in the quality of life, by incorporating skills and change behavior; increasing the number of people following exercising guidelines (60-minutes, 5 days a week); the percent of participants using food guide pyramids and dietary guidelines will increase; and the percent of participants reporting improved quality of life will increase.

Not Reporting on this Outcome Measure



## **Outcome #9**

### **1. Outcome Measures**

Means comparison of Champion youth participant's nutritional, physical activity and chronic diseases knowledge increased before and after education

### **2. Associated Institution Types**

- 1890 Extension

### **3a. Outcome Type:**

Change in Knowledge Outcome Measure

### **3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2015	264

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

#### **Issue (Who cares and Why)**

Alabamians' obesity rate is significantly high in youth 2-17 years old (28%). This rate has an effect on the increased incidents of obesity-related diseases (Diabetes-14.1%, Hypertension-40.0%, High Cholesterol-34.1 %, Coronary Heart Disease-7.4%). Contributing key factors are unhealthy eating habits- consume under the recommended servings of fruits and vegetables combined (youth-165%) and physical inactivity (youth-22.4%).

#### **What has been done**

Nine (9) Urban Regional Extension Agents (UREAs) implemented a 10 week Community Health Aerobic Motivational Program Initiating Optimal Nutrition (CHAMPION) program in nine (9) metropolitan areas. Each agent conducted five (6) lessons and two (2) 60 minutes exercise classes using the iChoose CHAMPION curriculum for youth ages 5 and 17. Before and after lessons, the agents collected demographics, behavioral and knowledge data. Behavioral habits were reassessed three (3) months after program completion.

#### **Results**

A&M Extension- An independent-samples t-test was conducted to compare before and after nutrition, nutrients, nutrition facts label and physical activity knowledge of each youth group (K-4th and 5th-8th grades). K-4th graders' pretests (N=132) and posttests (N=117), there was a significant difference ( $p < 0.05$ ) in the scores for pretests ( $M=29.85$ ,  $SD=28.34$ ) and posttests ( $M=65.98$ ,  $SD=34.87$ ),  $t(247)=- 9.01$ . 5th-8th graders' pretest (N=132) and posttests (N=106), there was a significant difference ( $p < 0.05$ ) in the scores for pretests ( $M=50.98$ ,  $SD 17.42$ ) and posttests ( $M=81.79$ ,  $SD=21.64$ ),  $t(236)= -12.17$ . The results suggested that K-4th and 5th-8th graders' knowledge increased for pretests and to posttests.

### **4. Associated Knowledge Areas**

**KA Code**    **Knowledge Area**  
703            Nutrition Education and Behavior

**Outcome #10**

**1. Outcome Measures**

Increased #/% of Champion participants' fruit and vegetable consumption combined

**2. Associated Institution Types**

- 1890 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2015	233

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

**Issue (Who cares and Why)**

Alabamians' obesity rate is significantly high in youth 2-17 years old (28%). This rate has an effect on the increased incidents of obesity-related diseases (Diabetes-14.1%, Hypertension-40.0%, High Cholesterol-34.1 %, Coronary Heart Disease-7.4%). Contributing key factors are unhealthy eating habits- consume under the recommended servings of fruits and vegetables combined (youth-165%) and physical inactivity (youth-22.4%).

**What has been done**

Nine (9) Urban Regional Extension Agents (UREAs) implemented a 10 week Community Health Aerobic Motivational Program Initiating Optimal Nutrition (CHAMPION) program in nine (9) metropolitan areas. Each agent conducted five (6) lessons and two (2) 60 minutes exercise classes using the iChoose CHAMPION curriculum for youth ages 5 and 17. Before and after lessons, the agents collected demographics, behavioral and knowledge data. Behavioral habits were reassessed three (3) months after program completion.

**Results**

A&M Extension-Youth before (N=264), after (N=223) and three (3) months post-delayed (N=186) behavioral habits were assessed for consumption of fruits and vegetables. The majority responded: 1) Vegetables consumption for Pre- All the time (42%), Post- All the time (58%); Post-delayed- All the time (48%), 2) Fruits consumption All the time for Pre- 73%; Post- 86% and Post-delayed- 83%.

**4. Associated Knowledge Areas**

**KA Code**    **Knowledge Area**  
724            Healthy Lifestyle

**Outcome #11**

**1. Outcome Measures**

Number of Champion youth who increased physical activity to 60 minutes or more

**2. Associated Institution Types**

- 1890 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2015	264

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

**Issue (Who cares and Why)**

Alabamians' obesity rate is significantly high in youth 2-17 years old (28%). This rate has an effect on the increased incidents of obesity-related diseases (Diabetes-14.1%, Hypertension-40.0%, High Cholesterol-34.1 %, Coronary Heart Disease-7.4%). Contributing key factors are unhealthy eating habits- consume under the recommended servings of fruits and vegetables combined (youth-165%) and physical inactivity (youth-22.4%).

**What has been done**

Nine (9) Urban Regional Extension Agents (UREAs) implemented a 10 week Community Health Aerobic Motivational Program Initiating Optimal Nutrition (CHAMPION) program in nine (9) metropolitan areas. Each agent conducted five (6) lessons and two (2) 60 minutes exercise classes using the iChoose CHAMPION curriculum for youth ages 5 and 17. Before and after lessons, the agents collected demographics, behavioral and knowledge data. Behavioral habits were reassessed three (3) months after program completion.

**Results**

A&M Extension- K-8th graders combined physical activity All the time for Pre (N=264)- 64%; Post (N=223)- 70% and Post-delayed (N=186)- 63%.

**4. Associated Knowledge Areas**

**KA Code**    **Knowledge Area**  
724            Healthy Lifestyle

## **Outcome #12**

### **1. Outcome Measures**

Means comparison of Champion adults participant's nutritional, physical activity and chronic diseases knowledge increased before and after education

### **2. Associated Institution Types**

- 1890 Extension

### **3a. Outcome Type:**

Change in Knowledge Outcome Measure

### **3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2015	436

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

#### **Issue (Who cares and Why)**

Alabamians' obesity rate is significantly high in adults (33%). This rate has an effect on the increased incidents of obesity-related diseases (Diabetes- 14.1%, Hypertension- 40.0%, High Cholesterol- 34.1%, Coronary Heart Disease- 7.4%). Contributing key factors are unhealthy eating habits- consumed under the recommended servings of fruits and vegetables combined (adults- 52%) and physical activity (adults-31%).

#### **What has been done**

Nine (9) Urban Regional Extension Agents (UREAs) implemented a 12-week CHAMPION program in nine (9) metropolitan areas. Each agent conducted six (6) lessons and four (4) 30 minutes exercise classes using the iChoose CHAMPION curriculum for adults ages 18 and above. Before and after lessons, the agents collected demographics, behavioral and knowledge data. Behavioral habits were reassessed three (3) months after program completion.

#### **Results**

A&M Extension An independent-sample t-test was conducted to compare before (N=436) and after (N=406) nutrition, chronic diseases and physical activity knowledge of CHAMPION adults. There was a significant higher ( $p < 0.05$ ) score for posttest ( $M = 57.26$ ,  $SD = 23.72$ ) than pretest ( $M = 74.41$ ,  $SD = 21.63$ ),  $t(840) = -10.94$ . The results suggest that adults' knowledge increased from pretests to posttests.

### **4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
703	Nutrition Education and Behavior

### **Outcome #13**

#### **1. Outcome Measures**

Increase in #/% of Champion participants that follow MyPlate/Dietary Guidelines recommendations

#### **2. Associated Institution Types**

- 1890 Extension

#### **3a. Outcome Type:**

Change in Action Outcome Measure

#### **3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2015	436

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

##### **Issue (Who cares and Why)**

Alabamians' obesity rate is significantly high in adults (33%). This rate has an effect on the increased incidents of obesity-related diseases (Diabetes- 14.1%, Hypertension- 40.0%, High Cholesterol- 34.1%, Coronary Heart Disease- 7.4%). Contributing key factors are unhealthy eating habits- consumed under the recommended servings of fruits and vegetables combined (adults- 52%) and physical activity (adults-31%).

##### **What has been done**

Nine (9) Urban Regional Extension Agents (UREAs) implemented a 12-week CHAMPION program in nine (9) metropolitan areas. Each agent conducted six (6) lessons and four (4) 30 minutes exercise classes using the iChoose CHAMPION curriculum for adults ages 18 and above. Before and after lessons, the agents collected demographics, behavioral and knowledge data. Behavioral habits were reassessed three (3) months after program completion.

##### **Results**

Behavioral habits of adults before (N=436), after (N=406) and three (3) months post-delayed (N=303) were assessed for consumption of fruits, vegetables, whole grains, lean meats, and water. The majority consumed 1) Fruits 1-2 times/day: Pre- 62%; Post- 64% and Post-delayed- 58%, 2) Vegetables were consumed 1-2 times/day: Pre- 65%; Post- 62%; Post-delayed- 56%, 3) Whole grains were consumed 1-2 times/day: Pre- 53%; Post- 47%; Post-delayed- 41%, 4) Lean or low-fat meats were consumed 1-2 times/day: Pre- 75%; Post- 78%; Post-delayed- 62%, 5) Low-fat or fat-free dairy or milk products were consumed 1-2 times/day: Pre- 48%; Post- 43%; Post-delayed- 35%, and 6) 8 ounces or more of water was consumed 5 or more times/day: Pre- 44%; Post- 47%; and Post-delayed- 36%.

#### 4. Associated Knowledge Areas

KA Code	Knowledge Area
724	Healthy Lifestyle

#### Outcome #14

##### 1. Outcome Measures

Increase in #/% of Champion participants who are physically active

##### 2. Associated Institution Types

- 1890 Extension

##### 3a. Outcome Type:

Change in Action Outcome Measure

##### 3b. Quantitative Outcome

Year	Actual
2015	436

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

###### Issue (Who cares and Why)

Alabamians' obesity rate is significantly high in adults (33%). This rate has an effect on the increased incidents of obesity-related diseases (Diabetes- 14.1%, Hypertension- 40.0%, High Cholesterol- 34.1%, Coronary Heart Disease- 7.4%). Contributing key factors are unhealthy eating habits- consumed under the recommended servings of fruits and vegetables combined (adults- 52%) and physical activity (adults-31%).

###### What has been done

Nine (9) Urban Regional Extension Agents (UREAs) implemented a 12-week CHAMPION program in nine (9) metropolitan areas. Each agent conducted six (6) lessons and four (4) 30 minutes exercise classes using the iChoose CHAMPION curriculum for adults ages 18 and above. Before and after lessons, the agents collected demographics, behavioral and knowledge data. Behavioral habits were reassessed three (3) months after program completion.

###### Results

A&M Extension -Physical activity of adults 3-5 days per week for 30 minutes: before (N=436)- 40%, after (N=406)- 47% and three (3) months post-delayed (N=303)- 43%.

#### 4. Associated Knowledge Areas

KA Code	Knowledge Area
724	Healthy Lifestyle

### **Outcome #15**

#### **1. Outcome Measures**

Increase in the #/% knowledge of teenagers in the TEEN program

#### **2. Associated Institution Types**

- 1890 Extension

#### **3a. Outcome Type:**

Change in Knowledge Outcome Measure

#### **3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2015	326

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

##### **Issue (Who cares and Why)**

Teenagers are becoming the next generation of adults at risk for chronic diseases

##### **What has been done**

our modules on nutrition, nutrients, sports nutrition, and chronic diseases were taught to the teenagers by the nine Urban Regional Extension Agents (UREAs)

##### **Results**

A&M Extension -Teens' increased nutrition, nutrients, sports nutrition and chronic diseases knowledge from pre (64%) to post (83%).

#### **4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
703	Nutrition Education and Behavior

### **Outcome #16**

#### **1. Outcome Measures**

Increase in #/% of TEEN participants who are physically active

#### **2. Associated Institution Types**

- 1890 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

Year	Actual
2015	326

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

**Issue (Who cares and Why)**

Teenagers are becoming the next generation of adults at risk for chronic diseases

**What has been done**

Four iDance exercises were conducted per UREA. The iDance units recorded time, steps and calories burned.

**Results**

A& M Extension -Each class was 30-60 minutes; Number of steps- 489,000; Average calories burned per teen- 370.

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
724	Healthy Lifestyle

**Outcome #17**

**1. Outcome Measures**

Number/% of treatment group participants who increase understanding of recommended daily fruit and vegetable servings from pre- to post-assessment and as compared to control group

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Knowledge Outcome Measure

**3b. Quantitative Outcome**

Year	Actual
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### 3c. Qualitative Outcome or Impact Statement

#### Issue (Who cares and Why)

Nineteen percent of Alabama's children ages 10-17 are obese. Dietary patterns begin in childhood making child nutrition education and early intervention critical. Alabama has among the highest obesity rates and obesity-related disease rates in the nation. Limited-resource individuals, such as Supplemental Nutrition Assistance Program (SNAP) recipients, are disproportionately affected by these diseases. Reaching children in low-income communities through NEP is a key strategy for tackling Alabama's obesity and health issues.

#### What has been done

Body Quest is a childhood obesity prevention program for elementary youth, particularly third graders in schools with 50% or more of students receiving free or reduced lunches. Third graders across the state are empowered to make healthier choices during a 15-week impact evaluation intervention. In FY15, each NEP Extension, full-time, nutrition educator (n=32) worked with 10 classes designated as either treatment or control. Treatment students were in different schools from control students. Schools were randomly assigned with one to five classes per school. Students were recruited using standardized scripts; parents of participating third graders signed an informed consent. An Institutional Review Board approved this study.

#### Results

Based on pre- and post-assessment data analyzed by t-test (within) and ANOVA (between):

- 1) Body Quest treatment group students (n=3107) reported a significant increase in understanding of recommended daily fruit and vegetable servings from pre- to post-assessment ( $t = -16.75, p < .001$ ).
- 2) Body Quest treatment group students (n=3107) reported a significant increase in understanding of recommended daily fruit and vegetable servings compared to control group students (n=1253) at post-assessment ( $F(1,310)=71.93, p < .001$ ).

### 4. Associated Knowledge Areas

KA Code	Knowledge Area
703	Nutrition Education and Behavior

#### Outcome #18

##### 1. Outcome Measures

Number/% of treatment group participants who increase fruit and vegetable consumption from pre- to post-assessment and as compared to control group

##### 2. Associated Institution Types

- 1862 Extension

### 3a. Outcome Type:

Change in Action Outcome Measure

### 3b. Quantitative Outcome

Year	Actual
2015	1117

### 3c. Qualitative Outcome or Impact Statement

#### Issue (Who cares and Why)

Nineteen percent of Alabama's children ages 10-17 are obese. Dietary patterns begin in childhood making child nutrition education and early intervention critical. Alabama has among the highest obesity rates and obesity-related disease rates in the nation. An associated risk factor for obesity and chronic disease is low fruit and vegetable consumption. Currently, Alabama children do not reach federal recommendations for fruit and vegetable consumption. Reaching children in low-income communities through NEP is a key strategy for tackling Alabama's obesity and health issues.

#### What has been done

Body Quest is a childhood obesity prevention program for elementary youth, particularly third graders in schools with 50% or more of students receiving free or reduced lunches. Third graders across the state are empowered to make healthier choices during a 15-week impact evaluation intervention. In FY15, each NEP Extension, full-time, nutrition educator (n=32) worked with 10 classes designated as either treatment or control. Treatment students were in different schools from control students. Schools were randomly assigned with one to five classes per school. Students were recruited using standardized scripts; parents of participating third graders signed an informed consent. An Institutional Review Board approved this study.

#### Results

Based on pre- and post-assessment data analyzed by t-test (within) and ANOVA (between):

- 1) Body Quest treatment group students (n = 3863) reported a significant increase in fruit and vegetable consumption through the School Lunch Program from pre- to post-assessment (t = -5.57, p < .001).
- 2) Body Quest control group students (n = 1530) reported a significant decrease in fruit and vegetable consumption through the School Lunch Program from pre- to post-assessment (t = 4.45, p < .0001).
- 3) Body Quest treatment group students (n = 3863) reported a significant increase in fruit and vegetable consumption through the School Lunch Program compared to control students (n = 1530) at post-assessment (F(1,317) = 52.21, p < .001).

## 4. Associated Knowledge Areas

**KA Code**    **Knowledge Area**  
703            Nutrition Education and Behavior

**Outcome #19**

**1. Outcome Measures**

Number/% of treatment group participants who increase eating breakfast from pre- to post-assessment and as compared to control group

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2015	330

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

**Issue (Who cares and Why)**

Nineteen percent of Alabama's children ages 10-17 are obese. Dietary patterns begin in childhood making child nutrition education and early intervention critical. Alabama has among the highest obesity rates and obesity-related disease rates in the nation. Consuming breakfast daily is associated with healthy weight maintenance. Empowering children in low-income communities to eat breakfast is a key strategy for tackling Alabama's obesity and health issues.

**What has been done**

Body Quest is a childhood obesity prevention program for elementary youth, particularly third graders in schools with 50% or more of students receiving free or reduced lunches. Third graders across the state are empowered to make healthier choices during a 15-week impact evaluation intervention. In FY15, each NEP Extension, full-time, nutrition educator (n=32) worked with 10 classes designated as either treatment or control. Treatment students were in different schools from control students. Schools were randomly assigned with one to five classes per school. Students were recruited using standardized scripts; parents of participating third graders signed an informed consent. An Institutional Review Board approved this study.

**Results**

Based on pre- and post-assessment data analyzed by t-test (within) and ANOVA (between):

- 1) Body Quest treatment group students (n = 3112) reported a significant increase in breakfast consumption from pre- to post-assessment (t = -2.28, p < .05).
- 2) Body Quest treatment group students (n = 3112) reported a significant increase in breakfast

consumption compared to control students (n = 1253) at post-assessment ( $F(1,310) = 11.78, p < .001$ ).

#### 4. Associated Knowledge Areas

KA Code	Knowledge Area
703	Nutrition Education and Behavior

#### Outcome #20

##### 1. Outcome Measures

Percentage of improved eating habits before and after education

##### 2. Associated Institution Types

- 1862 Extension

##### 3a. Outcome Type:

Change in Action Outcome Measure

##### 3b. Quantitative Outcome

Year	Actual
2015	1466

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

###### **Issue (Who cares and Why)**

Nineteen percent of Alabama's children ages 10-17 are obese. Dietary patterns begin in childhood making child nutrition education and early intervention critical. Alabama has among the highest obesity rates and obesity-related disease rates in the nation. An associated risk factor for obesity and chronic disease is low fruit and vegetable consumption. Currently, Alabama children do not reach federal recommendations for fruit and vegetable consumption. Reaching children in low-income communities through NEP is a key strategy for tackling Alabama's obesity and health issues.

###### **What has been done**

Body Quest is a childhood obesity prevention program for elementary youth, particularly third graders in schools with 50% or more of students receiving free or reduced lunches. Third graders across the state are empowered to make healthier choices during a 15-week impact evaluation intervention. In FY15, each NEP Extension, full-time, nutrition educator (n=32) worked with 10 classes designated as either treatment or control. Treatment students were in different schools from control students. Schools were randomly assigned with one to five classes per school. Students were recruited using standardized scripts; parents of participating third graders signed an informed consent. An Institutional Review Board approved this study.

### Results

Based on pre- and post-assessment data analyzed by t-test (within) and ANOVA (between):

- 1) Body Quest treatment group students (n = 3110) reported a significant increase in healthy eating habits from pre- to post-assessment (t = -10.11, p < .001).
- 2) Body Quest treatment group students (n = 3110) reported a significant increase in healthy eating habits compared to control students (n = 1253) at post-assessment (F(1,310) = 25.36, p < .001).

## 4. Associated Knowledge Areas

KA Code	Knowledge Area
703	Nutrition Education and Behavior

### Outcome #21

#### 1. Outcome Measures

Number of treatment group participants who increase fruit and vegetable consumption from pre- to post-assessment and as compared to control group

#### 2. Associated Institution Types

- 1862 Extension

#### 3a. Outcome Type:

Change in Action Outcome Measure

#### 3b. Quantitative Outcome

Year	Actual
2015	50

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

##### **Issue (Who cares and Why)**

Nineteen percent of Alabama's children ages 10-17 are obese. Dietary patterns begin in childhood making child nutrition education and early intervention critical. Alabama has among the highest obesity rates and obesity-related disease rates in the nation. An associated risk factor for obesity and chronic disease is low fruit and vegetable consumption. Currently, Alabama children do not reach federal recommendations for fruit and vegetable consumption. Reaching children in low-income communities through NEP is a key strategy for tackling Alabama's obesity and health issues. One critical strategy is to influence parents to improve children's home environment by making it more fruit and vegetable friendly.

### What has been done

Body Quest is a childhood obesity prevention program for elementary youth, particularly third graders in schools with 50% or more of students receiving free or reduced lunches. Third graders across the state are empowered to make healthier choices during a 15-week impact evaluation intervention. Accompanying school-based education for students, a parent initiative recruited parents to participate as recipe testers. Parents were asked to prepare provided recipes in the home and received action-oriented text messaging. Parents were randomly assigned to treatment and control groups paralleling their student's assignment. Students were recruited using standardized scripts; parents of participating third graders signed an informed consent. An Institutional Review Board approved this study.

### Results

Based on pre- and post-assessment data analyzed by t-test (within) and ANOVA (between):

- 1) Body Quest treatment group parents (n = 228) reported a significant increase in fruit consumption from pre- to post-assessment (t = -2.47, p < .05).
- 2) Body Quest treatment group parents (n = 228) reported a significant increase in fruit consumption compared to control parents (n = 286) at post-assessment (F(1,863) = 5.26, p < .05).

## 4. Associated Knowledge Areas

KA Code	Knowledge Area
703	Nutrition Education and Behavior

### Outcome #22

#### 1. Outcome Measures

Number of treatment group students who have increased availability of vegetables in the home from pre- to post-assessment and as compared to control group

#### 2. Associated Institution Types

- 1862 Extension

#### 3a. Outcome Type:

Change in Condition Outcome Measure

#### 3b. Quantitative Outcome

Year	Actual
2015	1274

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

### **Issue (Who cares and Why)**

Nineteen percent of Alabama's children ages 10-17 are obese. Dietary patterns begin in childhood making child nutrition education and early intervention critical. Alabama has among the highest obesity rates and obesity-related disease rates in the nation. An associated risk factor for obesity and chronic disease is low fruit and vegetable consumption. Currently, Alabama children do not reach federal recommendations for fruit and vegetable consumption. Reaching children in low-income communities through NEP is a key strategy for tackling Alabama's obesity and health issues. One critical strategy is to influence parents to improve children's home environment by making it more fruit and vegetable friendly.

### **What has been done**

Body Quest is a childhood obesity prevention program for elementary youth, particularly third graders in schools with 50% or more of students receiving free or reduced lunches. Third graders across the state are empowered to make healthier choices during a 15-week impact evaluation intervention. Accompanying school-based education for students, a parent initiative recruited parents to participate as recipe testers. Parents were asked to prepare provided recipes in the home and received action-oriented text messaging. Parents were randomly assigned to treatment and control groups paralleling their student's assignment. Students were recruited using standardized scripts; parents of participating third graders signed an informed consent. An Institutional Review Board approved this study.

### **Results**

Based on pre- and post-assessment data analyzed by t-test (within) and ANOVA (between):

- 1) Body Quest treatment group students (n = 3110) reported a significant increase in vegetable availability at home from pre- to post-assessment ( $t = -6.06, p < .001$ ).
- 2) Body Quest treatment group students (n = 3110) reported a significant increase in vegetable availability at home compared to control students (n = 1253) at post-assessment ( $F(1,310) = 5.67, p < .05$ ).

## **4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
703	Nutrition Education and Behavior

### **Outcome #23**

#### **1. Outcome Measures**

Number of treatment group students who have increased accessibility of vegetables in the home from pre- to post-assessment and as compared to control group

#### **2. Associated Institution Types**

- 1862 Extension

### 3a. Outcome Type:

Change in Condition Outcome Measure

### 3b. Quantitative Outcome

Year	Actual
2015	1273

### 3c. Qualitative Outcome or Impact Statement

#### Issue (Who cares and Why)

Nineteen percent of Alabama's children ages 10-17 are obese. Dietary patterns begin in childhood making child nutrition education and early intervention critical. Alabama has among the highest obesity rates and obesity-related disease rates in the nation. An associated risk factor for obesity and chronic disease is low fruit and vegetable consumption. Currently, Alabama children do not reach federal recommendations for fruit and vegetable consumption. Reaching children in low-income communities through NEP is a key strategy for tackling Alabama's obesity and health issues. One critical strategy is to influence parents to improve children's home environment by making it more fruit and vegetable friendly.

#### What has been done

Body Quest is a childhood obesity prevention program for elementary youth, particularly third graders in schools with 50% or more of students receiving free or reduced lunches. Third graders across the state are empowered to make healthier choices during a 15-week impact evaluation intervention. Accompanying school-based education for students, a parent initiative recruited parents to participate as recipe testers. Parents were asked to prepare provided recipes in the home and received action-oriented text messaging. Parents were randomly assigned to treatment and control groups paralleling their student's assignment. Students were recruited using standardized scripts; parents of participating third graders signed an informed consent. An Institutional Review Board approved this study.

#### Results

Based on pre- and post-assessment data analyzed by t-test (within) and ANOVA (between):

1) Body Quest treatment group students (n = 3109) reported a significant increase in vegetable accessibility at home from pre- to post-assessment ( $t = -8.31, p < .001$ ).

2) Body Quest treatment group students (n = 3109) reported a significant increase in vegetable accessibility at home compared to control students (n = 1253) at post-assessment ( $F(1,310) = 5.67, p < .05$ ).

## 4. Associated Knowledge Areas

KA Code	Knowledge Area
703	Nutrition Education and Behavior



## **Outcome #24**

### **1. Outcome Measures**

Number of treatment group students who have increased parental modeling of vegetables in the home from pre- to post-assessment and as compared to control group

### **2. Associated Institution Types**

- 1862 Extension

### **3a. Outcome Type:**

Change in Condition Outcome Measure

### **3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2015	1283

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

#### **Issue (Who cares and Why)**

Nineteen percent of Alabama's children ages 10-17 are obese. Dietary patterns begin in childhood making child nutrition education and early intervention critical. Alabama has among the highest obesity rates and obesity-related disease rates in the nation. An associated risk factor for obesity and chronic disease is low fruit and vegetable consumption. Currently, Alabama children do not reach federal recommendations for fruit and vegetable consumption. Reaching children in low-income communities through NEP is a key strategy for tackling Alabama's obesity and health issues. One critical strategy is to influence parents to improve children's home environment by making it more fruit and vegetable friendly.

#### **What has been done**

Body Quest is a childhood obesity prevention program for elementary youth, particularly third graders in schools with 50% or more of students receiving free or reduced lunches. Third graders across the state are empowered to make healthier choices during a 15-week impact evaluation intervention. Accompanying school-based education for students, a parent initiative recruited parents to participate as recipe testers. Parents were asked to prepare provided recipes in the home and received action-oriented text messaging. Parents were randomly assigned to treatment and control groups paralleling their student's assignment. Students were recruited using standardized scripts; parents of participating third graders signed an informed consent. An Institutional Review Board approved this study.

#### **Results**

Based on pre- and post-assessment data analyzed by t-test (within) and ANOVA (between):

- 1) Body Quest treatment group students (n = 3109) reported a significant increase in parental modeling at home from pre- to post-assessment (t = -5.84, p < .001).

2) Body Quest treatment group students (n = 3109) reported a significant increase in parental modeling at home compared to control students (n = 1253) at post-assessment ( $F(1,310) = 1.74$ ,  $p < .001$ ).

#### 4. Associated Knowledge Areas

<b>KA Code</b>	<b>Knowledge Area</b>
703	Nutrition Education and Behavior

#### Outcome #25

##### 1. Outcome Measures

Number of treatment group students who have increased subjective norms related to eating vegetables from pre- to post-assessment and as compared to control group

##### 2. Associated Institution Types

- 1862 Extension

##### 3a. Outcome Type:

Change in Condition Outcome Measure

##### 3b. Quantitative Outcome

Year	Actual
2015	1419

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

###### **Issue (Who cares and Why)**

Nineteen percent of Alabama's children ages 10-17 are obese. Dietary patterns begin in childhood making child nutrition education and early intervention critical. Alabama has among the highest obesity rates and obesity-related disease rates in the nation. An associated risk factor for obesity and chronic disease is low fruit and vegetable consumption. Currently, Alabama children do not reach federal recommendations for fruit and vegetable consumption. Reaching children in low-income communities through NEP is a key strategy for tackling Alabama's obesity and health issues. One critical strategy is to influence parents to improve children's home environment by making it more fruit and vegetable friendly.

###### **What has been done**

Body Quest is a childhood obesity prevention program for elementary youth, particularly third graders in schools with 50% or more of students receiving free or reduced lunches. Third graders across the state are empowered to make healthier choices during a 15-week impact evaluation intervention. Accompanying school-based education for students, a parent initiative recruited parents to participate as recipe testers. Parents were asked to prepare provided recipes in the home and received action-oriented text messaging. Parents were randomly assigned to treatment

and control groups paralleling their student's assignment. Students were recruited using standardized scripts; parents of participating third graders signed an informed consent. An Institutional Review Board approved this study.

### Results

Based on pre- and post-assessment data analyzed by t-test (within) and ANOVA (between):

- 1) Body Quest treatment group students (n = 3110) reported a significant increase in subjective norms from pre- to post-assessment (t = -7.98, p < .001).
- 2) Body Quest control group students (n = 1253) reported a significant decrease in subjective norms from pre- to post-assessment (t = 4.36, p < .0001).
- 3) Body Quest treatment group students (n = 3110) reported a significant increase subjective norms compared to control students (n = 1253) at post-assessment (F(1,310) = 79.56, p < .001).

## 4. Associated Knowledge Areas

KA Code	Knowledge Area
703	Nutrition Education and Behavior

### Outcome #26

#### 1. Outcome Measures

Number of treatment group students who have increased perceived control related to eating vegetables from pre- to post-assessment and as compared to control group

#### 2. Associated Institution Types

- 1862 Extension

#### 3a. Outcome Type:

Change in Condition Outcome Measure

#### 3b. Quantitative Outcome

Year	Actual
2015	1499

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

##### Issue (Who cares and Why)

Nineteen percent of Alabama's children ages 10-17 are obese. Dietary patterns begin in childhood making child nutrition education and early intervention critical. Alabama has among the highest obesity rates and obesity-related disease rates in the nation. An associated risk factor for obesity and chronic disease is low fruit and vegetable consumption. Currently, Alabama children do not reach federal recommendations for fruit and vegetable consumption. Reaching children in

low-income communities through NEP is a key strategy for tackling Alabama's obesity and health issues. One critical strategy is to influence parents to improve children's home environment by making it more fruit and vegetable friendly.

**What has been done**

Body Quest is a childhood obesity prevention program for elementary youth, particularly third graders in schools with 50% or more of students receiving free or reduced lunches. Third graders across the state are empowered to make healthier choices during a 15-week impact evaluation intervention. Accompanying school-based education for students, a parent initiative recruited parents to participate as recipe testers. Parents were asked to prepare provided recipes in the home and received action-oriented text messaging. Parents were randomly assigned to treatment and control groups paralleling their student's assignment. Students were recruited using standardized scripts; parents of participating third graders signed an informed consent. An Institutional Review Board approved this study.

**Results**

Based on pre- and post-assessment data analyzed by t-test (within) and ANOVA (between):

- 1) Body Quest treatment group students (n = 3110) reported a significant increase in perceived control from pre- to post-assessment (t = -13.79, p < .001).
- 2) Body Quest treatment group students (n = 3110) reported a significant increase perceived control compared to control students (n = 1253) at post-assessment (F(1,310) = 75.38, p < .001).

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
703	Nutrition Education and Behavior

**Outcome #27**

**1. Outcome Measures**

Number of treatment group parents who have increased accessibility of vegetables in the home

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2015	58

### 3c. Qualitative Outcome or Impact Statement

#### Issue (Who cares and Why)

Nineteen percent of Alabama's children ages 10-17 are obese. Dietary patterns begin in childhood making child nutrition education and early intervention critical. Alabama has among the highest obesity rates and obesity-related disease rates in the nation. An associated risk factor for obesity and chronic disease is low fruit and vegetable consumption. Currently, Alabama children do not reach federal recommendations for fruit and vegetable consumption. Reaching children in low-income communities through NEP is a key strategy for tackling Alabama's obesity and health issues. One critical strategy is to influence parents to improve children's home environment by making it more fruit and vegetable friendly.

#### What has been done

Body Quest is a childhood obesity prevention program for elementary youth, particularly third graders in schools with 50% or more of students receiving free or reduced lunches. Third graders across the state are empowered to make healthier choices during a 15-week impact evaluation intervention. Accompanying school-based education for students, a parent initiative recruited parents to participate as recipe testers. Parents were asked to prepare provided recipes in the home and received action-oriented text messaging. Parents were randomly assigned to treatment and control groups paralleling their student's assignment. Students were recruited using standardized scripts; parents of participating third graders signed an informed consent. An Institutional Review Board approved this study.

#### Results

Based on pre- and post-assessment data analyzed by t-test (within) and ANOVA (between):

1) Body Quest treatment group parents (n = 227) reported a significant increase in vegetable accessibility at home from pre- to post-assessment ( $t = -2.67, p < .01$ ).

### 4. Associated Knowledge Areas

KA Code	Knowledge Area
703	Nutrition Education and Behavior

#### Outcome #28

##### 1. Outcome Measures

Number of treatment group parents who have increased parental modeling of vegetables in the home from pre- to post-assessment and as compared to control group

##### 2. Associated Institution Types

- 1862 Extension

### 3a. Outcome Type:

Change in Condition Outcome Measure

### 3b. Quantitative Outcome

Year	Actual
2015	43

### 3c. Qualitative Outcome or Impact Statement

#### Issue (Who cares and Why)

Nineteen percent of Alabama's children ages 10-17 are obese. Dietary patterns begin in childhood making child nutrition education and early intervention critical. Alabama has among the highest obesity rates and obesity-related disease rates in the nation. An associated risk factor for obesity and chronic disease is low fruit and vegetable consumption. Currently, Alabama children do not reach federal recommendations for fruit and vegetable consumption. Reaching children in low-income communities through NEP is a key strategy for tackling Alabama's obesity and health issues. One critical strategy is to influence parents to improve children's home environment by making it more fruit and vegetable friendly.

#### What has been done

Body Quest is a childhood obesity prevention program for elementary youth, particularly third graders in schools with 50% or more of students receiving free or reduced lunches. Third graders across the state are empowered to make healthier choices during a 15-week impact evaluation intervention. Accompanying school-based education for students, a parent initiative recruited parents to participate as recipe testers. Parents were asked to prepare provided recipes in the home and received action-oriented text messaging. Parents were randomly assigned to treatment and control groups paralleling their student's assignment. Students were recruited using standardized scripts; parents of participating third graders signed an informed consent. An Institutional Review Board approved this study.

#### Results

Based on pre- and post-assessment data analyzed by t-test (within) and ANOVA (between):

- 1) Body Quest treatment group students (n = 3109) reported a significant increase in parental modeling at home from pre- to post-assessment ( $t = -5.84, p < .001$ ).
- 2) Body Quest treatment group students (n = 3109) reported a significant increase in parental modeling at home compared to control students (n = 1253) at post-assessment ( $F(1,310) = 1.74, p < .001$ ).

## 4. Associated Knowledge Areas

KA Code	Knowledge Area
703	Nutrition Education and Behavior

**Outcome #29**

**1. Outcome Measures**

Number of treatment group parents who have increased subjective norms related to eating vegetables from pre- to post-assessment and as compared to control group

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

Year	Actual
2015	71

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

**Issue (Who cares and Why)**

Nineteen percent of Alabama's children ages 10-17 are obese. Dietary patterns begin in childhood making child nutrition education and early intervention critical. Alabama has among the highest obesity rates and obesity-related disease rates in the nation. An associated risk factor for obesity and chronic disease is low fruit and vegetable consumption. Currently, Alabama children do not reach federal recommendations for fruit and vegetable consumption. Reaching children in low-income communities through NEP is a key strategy for tackling Alabama's obesity and health issues. One critical strategy is to influence parents to improve children's home environment by making it more fruit and vegetable friendly.

**What has been done**

Body Quest is a childhood obesity prevention program for elementary youth, particularly third graders in schools with 50% or more of students receiving free or reduced lunches. Third graders across the state are empowered to make healthier choices during a 15-week impact evaluation intervention. Accompanying school-based education for students, a parent initiative recruited parents to participate as recipe testers. Parents were asked to prepare provided recipes in the home and received action-oriented text messaging. Parents were randomly assigned to treatment and control groups paralleling their student's assignment. Students were recruited using standardized scripts; parents of participating third graders signed an informed consent. An Institutional Review Board approved this study.

**Results**

Based on pre- and post-assessment data analyzed by t-test (within) and ANOVA (between):

- 1) Body Quest treatment group students (n = 3110) reported a significant increase in subjective norms from pre- to post-assessment (t = -7.98, p < .001).

2) Body Quest control group students (n = 1253) reported a significant decrease in subjective norms from pre- to post-assessment (t = 4.36, p < .0001).

3) Body Quest treatment group students (n = 3110) reported a significant increase subjective norms compared to control students (n = 1253) at post-assessment (F(1,310) = 79.56, p < .001).

#### 4. Associated Knowledge Areas

KA Code	Knowledge Area
703	Nutrition Education and Behavior

#### Outcome #30

##### 1. Outcome Measures

Percentage of Body Quest parents participating in text messaging survey who reported buying more vegetables after Body Quest education

##### 2. Associated Institution Types

- 1862 Extension

##### 3a. Outcome Type:

Change in Action Outcome Measure

##### 3b. Quantitative Outcome

Year	Actual
2015	86

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

###### **Issue (Who cares and Why)**

Nineteen percent of Alabama's children ages 10-17 are obese. Dietary patterns begin in childhood making child nutrition education and early intervention critical. Alabama has among the highest obesity rates and obesity-related disease rates in the nation. An associated risk factor for obesity and chronic disease is low fruit and vegetable consumption. Currently, Alabama children do not reach federal recommendations for fruit and vegetable consumption. Reaching children in low-income communities through NEP is a key strategy for tackling Alabama's obesity and health issues. One critical strategy is to influence parents to improve children's home environment by making it more fruit and vegetable friendly.

###### **What has been done**

Body Quest is a childhood obesity prevention program for elementary youth, particularly third graders in schools with 50% or more of students receiving free or reduced lunches. Third graders across the state are empowered to make healthier choices during a 15-week impact evaluation intervention. Accompanying school-based education for students, a parent initiative recruited



parents to participate as recipe testers. Parents were asked to prepare provided recipes in the home and received action-oriented text messaging. Parents were randomly assigned to treatment and control groups paralleling their student's assignment. Students were recruited using standardized scripts; parents of participating third graders signed an informed consent. An Institutional Review Board approved this study.

### Results

86% of parents participating in a text message post survey reported buying more vegetables after Body Quest education.

## 4. Associated Knowledge Areas

KA Code	Knowledge Area
703	Nutrition Education and Behavior

### Outcome #31

#### 1. Outcome Measures

Percentage of Body Quest parents participating in text messaging survey who reported using tips from the text messages at least once

#### 2. Associated Institution Types

- 1862 Extension

#### 3a. Outcome Type:

Change in Action Outcome Measure

#### 3b. Quantitative Outcome

Year	Actual
2015	98

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

##### Issue (Who cares and Why)

Nineteen percent of Alabama's children ages 10-17 are obese. Dietary patterns begin in childhood making child nutrition education and early intervention critical. Alabama has among the highest obesity rates and obesity-related disease rates in the nation. An associated risk factor for obesity and chronic disease is low fruit and vegetable consumption. Currently, Alabama children do not reach federal recommendations for fruit and vegetable consumption. Reaching children in low-income communities through NEP is a key strategy for tackling Alabama's obesity and health issues. One critical strategy is to influence parents to improve children's home environment by making it more fruit and vegetable friendly.

##### What has been done

Body Quest is a childhood obesity prevention program for elementary youth, particularly third graders in schools with 50% or more of students receiving free or reduced lunches. Third graders

across the state are empowered to make healthier choices during a 15-week impact evaluation intervention. Accompanying school-based education for students, a parent initiative recruited parents to participate as recipe testers. Parents were asked to prepare provided recipes in the home and received action-oriented text messaging. Parents were randomly assigned to treatment and control groups paralleling their student's assignment. Students were recruited using standardized scripts; parents of participating third graders signed an informed consent. An Institutional Review Board approved this study.

**Results**

98% of parents participating in a text message post survey reported using tips from the text messages at least once throughout the Body Quest initiative.

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
703	Nutrition Education and Behavior

**Outcome #32**

**1. Outcome Measures**

Percentage of Body Quest parents participating in text messaging survey who reported that their family eats more vegetables after Body Quest education

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

Year	Actual
2015	82

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

**Issue (Who cares and Why)**

Nineteen percent of Alabama's children ages 10-17 are obese. Dietary patterns begin in childhood making child nutrition education and early intervention critical. Alabama has among the highest obesity rates and obesity-related disease rates in the nation. An associated risk factor for obesity and chronic disease is low fruit and vegetable consumption. Currently, Alabama children do not reach federal recommendations for fruit and vegetable consumption. Reaching children in low-income communities through NEP is a key strategy for tackling Alabama's obesity and health issues. One critical strategy is to influence parents to improve children's home environment by making it more fruit and vegetable friendly.

**What has been done**

Body Quest is a childhood obesity prevention program for elementary youth, particularly third graders in schools with 50% or more of students receiving free or reduced lunches. Third graders across the state are empowered to make healthier choices during a 15-week impact evaluation intervention. Accompanying school-based education for students, a parent initiative recruited parents to participate as recipe testers. Parents were asked to prepare provided recipes in the home and received action-oriented text messaging. Parents were randomly assigned to treatment and control groups paralleling their student's assignment. Students were recruited using standardized scripts; parents of participating third graders signed an informed consent. An Institutional Review Board approved this study.

**Results**

82% of parents participating in a text message post survey reported that their family eats more vegetables after Body Quest education.

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
703	Nutrition Education and Behavior

**Outcome #33**

**1. Outcome Measures**

Percentage of Body Quest parents participating in text messaging survey who reported eating vegetables as snacks with their third grader

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2015	88

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

**Issue (Who cares and Why)**

Nineteen percent of Alabama's children ages 10-17 are obese. Dietary patterns begin in childhood making child nutrition education and early intervention critical. Alabama has among the highest obesity rates and obesity-related disease rates in the nation. An associated risk factor for obesity and chronic disease is low fruit and vegetable consumption. Currently, Alabama children do not reach federal recommendations for fruit and vegetable consumption. Reaching children in low-income communities through NEP is a key strategy for tackling Alabama's obesity and health issues. One critical strategy is to influence parents to improve children's home environment by making it more fruit and vegetable friendly.

### What has been done

Body Quest is a childhood obesity prevention program for elementary youth, particularly third graders in schools with 50% or more of students receiving free or reduced lunches. Third graders across the state are empowered to make healthier choices during a 15-week impact evaluation intervention. Accompanying school-based education for students, a parent initiative recruited parents to participate as recipe testers. Parents were asked to prepare provided recipes in the home and received action-oriented text messaging. Parents were randomly assigned to treatment and control groups paralleling their student's assignment. Students were recruited using standardized scripts; parents of participating third graders signed an informed consent. An Institutional Review Board approved this study.

### Results

88% of parents participating in a text message post survey reported eating vegetables as snacks with their third grader after Body Quest education.

## 4. Associated Knowledge Areas

KA Code	Knowledge Area
703	Nutrition Education and Behavior

### Outcome #34

#### 1. Outcome Measures

Increase in the #/% of vending machines with healthy food and beverage choices

#### 2. Associated Institution Types

- 1862 Extension

#### 3a. Outcome Type:

Change in Condition Outcome Measure

#### 3b. Quantitative Outcome

Year	Actual
2015	3

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

##### Issue (Who cares and Why)

Alabama has among the highest obesity rates and obesity-related disease rates in the nation. Environmental barriers, such as limited access to healthy food and physical activity opportunities, make it difficult to achieve lasting change. Limited-resource individuals, such as Supplemental Nutrition Assistance Program (SNAP) recipients, are disproportionately affected by these barriers. A key strategy for tackling obesity and health issues in Alabama is reaching the SNAP population through SNAP-Ed.

**What has been done**

A SNAP-Ed educator recognized the need for creating access to healthy food and beverage options for children in an after school program. The educator partnered with a director of a local Boys & Girls Club in Barbour County, and the vendors who stock on-site vending machines to revamp the facility's machines to feature healthy items. The educator secured donated Good Choice signage and stickers from the Alabama Department of Public Health and used them to indicate healthy choices to kids purchasing after school snacks.

**Results**

Through a negotiated change in vendor agreements, a 25% improvement in healthy choices of foods and beverages offered through vending machines was made in rural Boys and Girls clubs.

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
703	Nutrition Education and Behavior

**Outcome #35**

**1. Outcome Measures**

Increase in the #/% of people reached through a healthy retail initiative to increase access and appeal for healthy foods and beverages

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2015	1150

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

**Issue (Who cares and Why)**

Alabama has among the highest obesity rates and obesity-related disease rates in the nation. Environmental barriers, such as limited access to healthy food and physical activity opportunities, make it difficult to achieve lasting change. Limited-resource individuals, such as Supplemental Nutrition Assistance Program (SNAP) recipients, are disproportionately affected by these barriers. A key strategy for tackling obesity and health issues in Alabama is reaching the SNAP population through SNAP-Ed.

**What has been done**

Convenience stores may hold the key to improving healthy food access in rural Alabama. A SNAP-Ed educator approached the owner of 2 local convenience stores with ideas for stocking shelves with more appealing and healthier options. The goal was to make it easy for consumers to make good choices. Food assessments were completed for both stores and only 8 items were found in either store that met the Good Choice designation from the Alabama Department of Public Health. In response, new signage indicating healthy choices and attractive display racks were provided. A kick-off event was held to raise community awareness of this initiative.

**Results**

Convenience stores improved access and appeal for healthy foods and beverages in a rural area with limited options. Access and appeal were created through new signage indicating location of healthy options. Attractive displays were implemented in the checkout area to encourage healthy choices for impulse purchases. All efforts to rearrange and restock the stores were designed to make healthy choices easier and more attractive for consumers. These 2 stores were located in Wagarville (population 3,353) and Chatom (1,193); with more than 25% (1,150) of the population shopping at these stores each day.

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
703	Nutrition Education and Behavior

**Outcome #36**

**1. Outcome Measures**

Increase in the # of people with increased access and appeal for healthy foods through a community garden/emergency food setting partnership

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2015	8000

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

**Issue (Who cares and Why)**

Alabama has among the highest obesity rates and obesity-related disease rates in the nation. Environmental barriers, such as limited access to healthy food and physical activity opportunities, make it difficult to achieve lasting change. Limited-resource individuals, such as Supplemental Nutrition Assistance Program (SNAP) recipients, are disproportionately affected by these barriers. A key strategy for tackling obesity and health issues in Alabama is reaching the SNAP population

**What has been done**

While recipients of the Help Center food pantry in Lauderdale County benefit from emergency food, the opportunity to have fresh fruits and vegetables was minimal. A SNAP-Ed educator recognized the need and created access for fresh produce at the pantry through partnerships. First, the educator recruited the local Farmers Market director to work with farmers to provide the pantry with any fresh produce surplus. Second, the educator partnered with the Lauderdale Extension Community Garden to provide fresh produce to the pantry directly from the garden.

**Results**

8,000 people were reached through this environmental change with the opportunity to receive fresh produce. In its first month, the garden donated 28 pounds of fresh vegetables to those seeking emergency food.

Stakeholders have been engaged to create a sustainable and practical improvement at the food pantry in the form of more fresh food options.

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
702	Requirements and Function of Nutrients and Other Food Components

**Outcome #37**

**1. Outcome Measures**

Increase in the #/% of people reached through a healthy snack initiative at a faith-based event

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

Year	Actual
2015	85

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

**Issue (Who cares and Why)**

Alabama has among the highest obesity rates and obesity-related disease rates in the nation. Environmental barriers, such as limited access to healthy food and physical activity opportunities, make it difficult to achieve lasting change. Limited-resource individuals, such as Supplemental

Nutrition Assistance Program (SNAP) recipients, are disproportionately affected by these barriers. A key strategy for tackling obesity and health issues in Alabama is reaching the SNAP population through SNAP-Ed.

**What has been done**

SNAP-Ed supported local churches in pioneering environmental change. In Aliceville, five churches sponsored a community Vacation Bible School (VBS) for children grades K-8 at Cameron Park Housing Authority, a SNAP-Ed site. SNAP-Ed provided technical assistance to guide appropriate healthy food and beverage offerings instead of the typical snack of cookies and drink boxes.

**Results**

A healthy snack was provided each day for the 85 VBS children. The majority of these children were from SNAP-Ed eligible households.

To create appeal for the new healthier snacks, the SNAP-Ed educator led group tastings of healthy foods.

Water was served in place of sugar-sweetened beverages to further improve access to healthy snacks.

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
703	Nutrition Education and Behavior

**Outcome #38**

**1. Outcome Measures**

Increase in the # of people who have access to healthier foods through school and community garden initiatives

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2015	145

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

**Issue (Who cares and Why)**



Alabama has among the highest obesity rates and obesity-related disease rates in the nation. Environmental barriers, such as limited access to healthy food and physical activity opportunities, make it difficult to achieve lasting change. Limited-resource individuals, such as Supplemental Nutrition Assistance Program (SNAP) recipients, are disproportionately affected by these barriers. A key strategy for tackling obesity and health issues in Alabama is reaching the SNAP population through SNAP-Ed.

**What has been done**

- 1) A SNAP-Ed educator increased healthy food access in her community by starting a demonstration garden. The educator partnered with the county JOBS program to classify working in the demonstration garden as a Community Employment Activity for recipients of Family Assistance benefits.
- 2) During the summer, an urban community garden employs students from a local Boys and Girls Club to increase access to healthy foods. To support this effort, a SNAP-Ed educator engages students by conducting weekly food demonstrations using fresh produce from the garden.
- 3) A SNAP-Ed educator partnered with the Alabama Agricultural Development Authority to increase fresh produce offered through school lunch using a school garden.

**Results**

- 1) JOBS workers received employment credit for hours worked in the garden. They learned to grow and prepare their own vegetables, and were allowed to take home food from the garden. Based on post-survey data, JOBS workers had positive experiences working in the garden. Moreover, all participants demonstrated improvements in diet and physical activity. Thirty percent of county JOBS workers and many community members benefited from working in the garden. Future plans include partnering with the local Housing Authority to start similar gardens at several public housing complexes.
- 2) Over a period of five weeks, children participating in a community garden effort were repeatedly exposed to fresh vegetables, a technique used to increase vegetable consumption of youth.
- 3) A school garden reached 145 students at a rural school with 100% participation in free lunch. Produce from the garden was served to students through the school lunch. Due to the success of this school garden, the partnership was continued at a second school.

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
703	Nutrition Education and Behavior

**Outcome #39**

**1. Outcome Measures**

Increase in the #/% of increased physical activity through walking trail initiatives

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

Year	Actual
2015	4220

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

**Issue (Who cares and Why)**

Alabama has among the highest obesity rates and obesity-related disease rates in the nation. Environmental barriers, such as limited access to healthy food and physical activity opportunities, make it difficult to achieve lasting change. Limited-resource individuals, such as Supplemental Nutrition Assistance Program (SNAP) recipients, are disproportionately affected by these barriers. A key strategy for tackling obesity and health issues in Alabama is reaching the SNAP population through SNAP-Ed.

**What has been done**

- 1) Signage was placed near an under-utilized walking trail in a community park to create appeal for physical activity.
- 2) A SNAP-Ed educator facilitated a community-based, walking initiative, Getting Healthy Bibb County, targeted to SNAP recipients. To encourage increased water consumption, a hydration station was installed.

**Results**

- 1) Signage was displayed with the message, They learn from watching you: Be active and your kids will too. This message encouraged family physical activity while drawing attention to the newly renovated walking trail equipped with individual fitness equipment.
- 2) Twice a week, for 6 weeks, 25 people attended the walking initiative and improved physical activity.

**4. Associated Knowledge Areas**

**KA Code**    **Knowledge Area**  
703            Nutrition Education and Behavior

**Outcome #40**

**1. Outcome Measures**

The number of youth with increased access to healthier food options at school through a school wellness committee

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2015	300

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

**Issue (Who cares and Why)**

Alabama has among the highest obesity rates and obesity-related disease rates in the nation. Environmental barriers, such as limited access to healthy food and physical activity opportunities, make it difficult to achieve lasting change. Limited-resource individuals, such as Supplemental Nutrition Assistance Program (SNAP) recipients, are disproportionately affected by these barriers. A key strategy for tackling obesity and health issues in Alabama is reaching the SNAP population through SNAP-Education.

**What has been done**

A SNAP-Education educator was the catalyst for the creation of a school wellness committee in a school in one of the poorest counties in the US.

**Results**

A SNAP-Education educator was the catalyst for the creation of a school wellness committee in a school in one of the poorest counties in the US. The educator's work with the committee has improved the school environment, particularly with food and culinary demonstrations for 300 students.

**4. Associated Knowledge Areas**

**KA Code**    **Knowledge Area**  
703            Nutrition Education and Behavior

**Outcome #41**

**1. Outcome Measures**

Number of adults increased physical activity to 30 minutes or more

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

Year	Actual
2015	209

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

**Issue (Who cares and Why)**

Alabama continues to rank high in diet related health diseases. Exercise has been shown to decrease the risk of and maintain diet related health diseases. Less than 5% of adults participate in 30 minutes of physical activity each day; only one in three adults receive the recommended amount of physical activity each week. Additionally, 28.0% of Americans, or 80.2 million people, aged six and older are physically inactive.

**What has been done**

Eat Healthy Be Active was supplemented with 30-45 minutes of a physical activity opportunity in 19 counties. Adding the physical activity component to the workshop increased the availability of a physical activity opportunity.

**Results**

More than half of the participants reported that they tried a recipe makeover from the workshop and that they changed their eating habits based on what they learned at the workshop. 68% reported that they have become more active since the workshop, and 70% reported that they order healthier foods when they eat at a restaurant since attending the workshop. About 70% of the participants responded that they look at food labels when they shop.

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
703	Nutrition Education and Behavior

**Outcome #42**

**1. Outcome Measures**

Increase in the #/% of participants that understand basic nutrition concepts

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Knowledge Outcome Measure

**3b. Quantitative Outcome**

Year	Actual
2015	97

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

**Issue (Who cares and Why)**

Diabetes is the 6th leading cause of death for Alabamians; the complications from diabetes increase the risk of death from diabetes. Diabetes self-management programs decrease complications, increase knowledge, and promote positive health behaviors for diabetics and those at risk for developing diabetes.

**What has been done**

This program has increased the number of trained diabetes community educators and evaluated the effectiveness of an evidence-based self-management diabetes prevention and management program. This project strengthens Auburn University's partnership with the community by providing Alabama citizens with the necessary tools to prevent and manage diabetes. Providing evidence-based diabetes education to the targeted communities has helped Auburn University and ACES increase visibility with diverse and underserved populations.

**Results**

By the end of the program, a higher percentage of participants understood that exercise helps to lower blood sugar (pre- 67%, post, 93%); carbohydrates are broken down to glucose/sugar (pre- 79, post-85).

**4. Associated Knowledge Areas**

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

### **Outcome #43**

#### **1. Outcome Measures**

Percentage of DEEP participants who eat five or more servings of fruits or vegetables 4 or more days of the week

#### **2. Associated Institution Types**

- 1862 Extension

#### **3a. Outcome Type:**

Change in Action Outcome Measure

#### **3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2015	96

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

##### **Issue (Who cares and Why)**

Diabetes is the 6th leading cause of death for Alabamians; the complications from diabetes increase the risk of death from diabetes. Diabetes self-management programs decrease complications, increase knowledge, and promote positive health behaviors for diabetics and those at risk for developing diabetes.

##### **What has been done**

This program has increased the number of trained diabetes community educators and evaluated the effectiveness of an evidence-based self-management diabetes prevention and management program. This project strengthens Auburn University's partnership with the community by providing Alabama citizens with the necessary tools to prevent and manage diabetes. Providing evidence-based diabetes education to the targeted communities has helped Auburn University and ACES increase visibility with diverse and underserved populations.

##### **Results**

About 90% of participants reported eating five or more servings of fruits or vegetables 4 or more days of the week by the end of the program, compared to 82% of the participants at the beginning of the program. A higher percentage of participants reported eating five or more servings of fruits or vegetables 7 days a week increased from 17% to 27 % by the end of the program. Additionally, 39% participants reported exercising for at least 30 minutes 4 or more days of the week at the beginning of the program compared to 57% of the participants at the end of the program.

#### **4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
703	Nutrition Education and Behavior
724	Healthy Lifestyle

**Outcome #44**

**1. Outcome Measures**

The number of people with increased knowledge related to diabetes management.

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2015	0

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

**Issue (Who cares and Why)**

Diabetes is the 6th leading cause of death for Alabamians; the complications from diabetes increase the risk of death from diabetes. Diabetes self-management programs decrease complications, increase knowledge, and promote positive health behaviors for diabetics and those at risk for developing diabetes.

**What has been done**

This program has increased the number of trained diabetes community educators and evaluated the effectiveness of an evidence-based self-management diabetes prevention and management program. This project strengthens Auburn University's partnership with the community by providing Alabama citizens with the necessary tools to prevent and manage diabetes. Providing evidence-based diabetes education to the targeted communities has helped Auburn University and ACES increase visibility with diverse and underserved populations.

**Results**

The percentage of participants who reported knowing the best way to care for their feet increased from 76% to 94% by the end of the program. Additionally, a higher percentage of participants reported knowing what a retinal exam was at the end of the program; 80% of the participants responded correctly at the beginning of the program, compared to 93% at the end of the program. 44% of the participants reported knowing healthy ways to handle the stress related to their diabetes at the beginning of the program, compared to 88% by the end of the program.

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
702	Requirements and Function of Nutrients and Other Food Components
724	Healthy Lifestyle

**Outcome #45**

**1. Outcome Measures**

The number of EFNEP adult participants that don't run out of food before the month end

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2015	1105

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

**Issue (Who cares and Why)**

Limited-resource families often do not have enough healthy food to eat. To reduce the likelihood of running out of food before the end of the month, there is a need to increase ability of EFNEP clients to either get food directly, get food from assistance programs where necessary, and identify ways to better manage food resources.

**What has been done**

In 2015, 29 peer educators in 31 Alabama counties taught heads of household how to choose foods with the most nutrition at the lowest cost and how to better utilize food resources (WIC, SNAP benefits, dollars, gardens) to not run out of money for food before the end of the month.

**Results**

Using menu planning, food budgeting, MyPlate, and grocery store lists helped 42% of EFNEP graduates to less often run out of food before the end of the month.

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
703	Nutrition Education and Behavior



**Outcome #46**

**1. Outcome Measures**

The number of Moms-to-Be Who Showed a Positive Change in at Least One Food Group

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2015	688

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

**Issue (Who cares and Why)**

In Alabama, EFNEP is committed to reducing the infant mortality rate. One way to guard against the death of a baby before his first birthday is to collaborate with partners such as the health department, doctors offices, and other health care providers to help impoverished moms-to-be maintain healthy diets and weight during pregnancy.

**What has been done**

In 2015, EFNEP educators taught 688 moms-to-be how to combine healthy eating and physical activity for a more comfortable pregnancy, easier delivery and healthier baby.

**Results**

At program exit, 94% of Today's Mom graduates showed a positive change in at least one food group. Maintaining a healthy diet and weight increases the likelihood of successful birth outcomes.

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
703	Nutrition Education and Behavior

**Outcome #47**

**1. Outcome Measures**

The number of children who follow MyPlate/Dietary Guidelines recommendations

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2015	3980

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

**Issue (Who cares and Why)**

Childhood obesity is one of the greatest and most pressing child health issues in Alabama. Children of limited-resource families are at particular risk.

**What has been done**

Through school enrichment, short term programs, and after-school programming, 5,982 Alabama children and youth, in grades kindergarten and 4-8, participated in CATCH (Coordinated Approach to Child Health) to increase nutrition education and physical activity levels.

**Results**

After 1,548 lessons and more than 35,000 contacts, 87% of children and youth improved their abilities to choose foods according to Federal Dietary Recommendations while 52% improved their physical activity practices. Making wise nutrition choices and increasing physical activity helps to prevent childhood obesity.

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
703	Nutrition Education and Behavior

**Outcome #48**

**1. Outcome Measures**

The number of people who choose the healthiest Carbohydrate Containing foods in the right amounts.

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

Year	Actual
2015	36

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

**Issue (Who cares and Why)**

\*25.8 million people, or 8.3% of the U.S. population, have diabetes. Of those, 7 million people don't know they have it. Alabama has the highest rate of diabetes in the United States.

\*Diabetes is the seventh leading cause of death in the United States.

\*Diabetes is the sixth leading cause of death for Alabamians.

\*Diabetes is the leading cause of adult blindness in the country.

\*Diabetes is the leading cause of kidney failure in the country.

\*Diabetes is the leading cause of non-traumatic amputations in the country.

\*People with diabetes are at the same risk for heart attacks as people who have already suffered a heart attack.

**What has been done**

The Right Bite Diabetes Cooking School showed people affected by diabetes how to enjoy healthy food while controlling their diabetes. It provided excellent information that will help anyone preparing food to control diabetes, high blood pressure or any other chronic disease.

Participants learn about Portion control, Label reading, Use of various sweeteners, Choosing carbohydrate wisely, Increasing fiber, Choosing the right fats and Control of high blood pressure.

**Results**

Cholesterol

\*Read nutrition label for the total carbohydrate content Pre = 2.8 Post = 4.3

\*Use carbohydrate counting Pre= 2.9 Post = 4.4

\*Eat one cup of the non-starchy vegetable at lunch and supper Pre 4.1 Post 4.8

\*Check my blood glucose two hours after a meal Pre 2.2 Post 3.8

\*Eat foods with with a lower glycemic index. Pre 2.4 Post 4.4

\*Use a smaller plate instead of a large at my meal. Pre 3.0 Post 4.6

\*Share a meal at a restaurant or take part of my meal home. Pre 3.3 Post 4.32

#### 4. Associated Knowledge Areas

<b>KA Code</b>	<b>Knowledge Area</b>
703	Nutrition Education and Behavior

#### Outcome #49

##### 1. Outcome Measures

The number of Right Bite participants who learn Portion Control

##### 2. Associated Institution Types

- 1862 Extension

##### 3a. Outcome Type:

Change in Action Outcome Measure

##### 3b. Quantitative Outcome

Year	Actual
2015	36

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

###### **Issue (Who cares and Why)**

\*25.8 million people, or 8.3% of the U.S. population, have diabetes. Of those, 7 million people don't know they have it. Alabama has the highest rate of diabetes in the United States.

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\*People with diabetes are at the same risk for heart attacks as people who have already suffered a heart attack.

###### **What has been done**

The Right Bite Diabetes Cooking School showed people affected by diabetes how to enjoy healthy food while controlling their diabetes. It provided excellent information that will help anyone preparing food to control diabetes, high blood pressure or any other chronic disease.

Participants learn about Portion control, Label reading, Use of various sweeteners, Choosing carbohydrate wisely, Increasing fiber, Choosing the right fats and Control of high blood pressure.

**Results**

Portion Control

- \* Use the Plate Method to plan meals = Pre ? 1.6 Post = 3.6
- \* Measure my portions with measuring cups and measuring spoons = Pre 2.6, Post 4
- \* Use my hands to estimate portion sizes = Pre 2.6 Post = 4.3
- \* Eat three meals a day. = Pre 3.0, Post 3.6
- \* Rate your hunger from 1-10 and eat when moderately hungry. Pre 3.2 Post 3.2
- \* Drink water before a meal to reduce hunger. Pre 2.0, Post 3.0
- \* Eat slowly enough so meals last 20 minutes. Pre 1.3, Post 4.0

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
703	Nutrition Education and Behavior

**Outcome #50**

**1. Outcome Measures**

The number of Right Bite participants who consume less sugar

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2015	36

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

**Issue (Who cares and Why)**

- \*25.8 million people, or 8.3% of the U.S. population, have diabetes. Of those, 7 million people don't know they have it. Alabama has the highest rate of diabetes in the United States.
- \*Diabetes is the seventh leading cause of death in the United States.
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- \*Diabetes is the leading cause of non-traumatic amputations in the country.
- \*People with diabetes are at the same risk for heart attacks as people who have already suffered a heart attack.

**What has been done**

The Right Bite Diabetes Cooking School showed people affected by diabetes how to enjoy healthy food while controlling their diabetes. It provided excellent information that will help anyone preparing food to control diabetes, high blood pressure or any other chronic disease. Participants learn about Portion control, Label reading, Use of various sweeteners, Choosing carbohydrate wisely, Increasing fiber, Choosing the right fats and Control of high blood pressure.

**Results**

Sweeteners

- \* Substitute carbohydrate from sugary food for carbohydrate in other foods in my meal plan Pre 3.1, Post 4.2
- \* Check my blood glucose 2 hours after a meal. Pre 3.2, Post 4.4
- \* Cut the sugar in my recipes by at least one-fourth. Pre 2.6, Post - 4.1
- \* Use artificial sweetener in recipes for cakes, cookies, pies or other sweets. Pre 2.6, Post 4.1
- \* Use Splenda for Baking or DiabetiSweet for baking. Pre 2.8, Post 4.1

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
703	Nutrition Education and Behavior
724	Healthy Lifestyle

**Outcome #51**

**1. Outcome Measures**

The number of Right Bite participants who read nutrition labels

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2015	36

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

**Issue (Who cares and Why)**

- \* 25.8 million people, or 8.3% of the U.S. population, have diabetes. Of those, 7 million people don't know they have it. Alabama has the highest rate of diabetes in the United States.
- \* Diabetes is the seventh leading cause of death in the United States.
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- \* People with diabetes are at the same risk for heart attacks as people who have already suffered a heart attack.

### **What has been done**

The Right Bite Diabetes Cooking School showed people affected by diabetes how to enjoy healthy food while controlling their diabetes. It provided excellent information that will help anyone preparing food to control diabetes, high blood pressure or any other chronic disease. Participants learn about Portion control, Label reading, Use of various sweeteners, Choosing carbohydrate wisely, Increasing fiber, Choosing the right fats and Control of high blood pressure.

### **Results**

#### **Nutrition Label**

- \* Look for total carbohydrate instead of sugar on the label. Pre 3.6, Post 4.3
- \* Read the grams of total carbohydrate on the nutrition label when the food is labeled "sugar free". Pre 3.1, Post 4.0
- \* Look at the % Daily Value for sodium on the nutrition label. Pre 3.3, Post 4.38
- \* Choose food containing 2 or more grams of fiber per serving. Pre 2.76, Post 4.33
- \* Avoid food containing partially hydrogenated vegetable oil. Pre 3.19, Post 4.4

## **4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
703	Nutrition Education and Behavior
724	Healthy Lifestyle

### **Outcome #52**

#### **1. Outcome Measures**

The number of Right Bite participants who consume less fat

#### **2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

Year	Actual
2015	36

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

**Issue (Who cares and Why)**

- \* 25.8 million people, or 8.3% of the U.S. population, have diabetes. Of those, 7 million people don't know they have it. Alabama has the highest rate of diabetes in the United States.
- \* Diabetes is the seventh leading cause of death in the United States.
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- \* Diabetes is the leading cause of adult blindness in the country.
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- \* Diabetes is the leading cause of non-traumatic amputations in the country.
- \* People with diabetes are at the same risk for heart attacks as people who have already suffered a heart attack.

**What has been done**

The Right Bite Diabetes Cooking School showed people affected by diabetes how to enjoy healthy food while controlling their diabetes. It provided excellent information that will help anyone preparing food to control diabetes, high blood pressure or any other chronic disease. Participants learn about Portion control, Label reading, Use of various sweeteners, Choosing carbohydrate wisely, Increasing fiber, Choosing the right fats and Control of high blood pressure.

**Results**

- \* Use canola, peanut or olive oil Pre= 4.2; Post = 4.4
- \* Use the nutrition label to choose foods lower in saturated and trans fat. Pre=3.6 Post =4.9
- \* Eat fish high in omega-3 fatty acids like salmon and tuna. Pre=3.6 Post=4.3
- \* Use tub margarine Pre=3.9 Post=4.9
- \* Season vegetables with low sodium broth. Pre =3.6 Post =4.4
- \* Use low cholesterol egg substitute Pre= 2.1 Post 3.6
- \* Cut total fat in a recipe by at least one-fourth. Pre= 3.0 Post 4.1
- \* Mix plain yogurt with mayonnaise to make dressing for slaw and other salads. Pre= 2.0 Post 3.3

**4. Associated Knowledge Areas**

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



### **Outcome #53**

#### **1. Outcome Measures**

The number of Right Bite participants who consume more fiber

#### **2. Associated Institution Types**

- 1862 Extension

#### **3a. Outcome Type:**

Change in Action Outcome Measure

#### **3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2015	36

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

##### **Issue (Who cares and Why)**

- \* 25.8 million people, or 8.3% of the U.S. population, have diabetes. Of those, 7 million people don't know they have it. Alabama has the highest rate of diabetes in the United States.
- \* Diabetes is the seventh leading cause of death in the United States.
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- \* Diabetes is the leading cause of adult blindness in the country.
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- \* Diabetes is the leading cause of non-traumatic amputations in the country.
- \* People with diabetes are at the same risk for heart attacks as people who have already suffered a heart attack.

##### **What has been done**

The Right Bite Diabetes Cooking School showed people affected by diabetes how to enjoy healthy food while controlling their diabetes. It provided excellent information that will help anyone preparing food to control diabetes, high blood pressure or any other chronic disease. Participants learn about Portion control, Label reading, Use of various sweeteners, Choosing carbohydrate wisely, Increasing fiber, Choosing the right fats and Control of high blood pressure.

##### **Results**

Fiber

- \* Eat whole grain breads, pasta and cereals. Pre=3.7 Post = 4.8
- \* Substitute beans or peas for meat in my meals. Pre= 3.9 Post 4.5
- \* Eat a salad. Pre= 4.4 Post 4.9

- \* Read the nutrition label to find the fiber content of a food. Pre= 3.6 Post = 4.5
- \* Drink 8-12 eight ounce glasses of fluid per day. Pre= 4.4 Post=4.9
- \* Have at least 2 vegetables and 1 fruit at lunch and supper. Pre= 3.2 Post=4.7
- \* Eat foods containing 2-3 grams of fiber per serving. Pre = 3.3 Post 4.5

#### 4. Associated Knowledge Areas

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

#### Outcome #54

##### 1. Outcome Measures

The number of Right Bite participants who learned to control high blood pressure

##### 2. Associated Institution Types

- 1862 Extension

##### 3a. Outcome Type:

Change in Action Outcome Measure

##### 3b. Quantitative Outcome

Year	Actual
2015	36

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

###### **Issue (Who cares and Why)**

- \* 25.8 million people, or 8.3% of the U.S. population, have diabetes. Of those, 7 million people don't know they have it. Alabama has the highest rate of diabetes in the United States.
- \* Diabetes is the seventh leading cause of death in the United States.
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- \* Diabetes is the leading cause of adult blindness in the country.
- \* Diabetes is the leading cause of kidney failure in the country.
- \* Diabetes is the leading cause of non-traumatic amputations in the country.
- \* People with diabetes are at the same risk for heart attacks as people who have already suffered a heart attack.

###### **What has been done**

The Right Bite Diabetes Cooking School showed people affected by diabetes how to enjoy healthy food while controlling their diabetes. It provided excellent information that will help anyone preparing food to control diabetes, high blood pressure or any other chronic disease. Participants learn about Portion control, Label reading, Use of various sweeteners, Choosing

carbohydrate wisely, Increasing fiber, Choosing the right fats and Control of high blood pressure.

### Results

High Blood Pressure (HBP)

HBP

- A. Use the DASH diet to plan my meals. Pre =2.4 Post = 4.3
- B. Do physical activity for at least 30 minutes per day. Pre= 2.3 Post 3.3
- C. Read the nutrition label to find the sodium content of food. Pre= 3.2 Post =4.6
- D. Season with lemon juice and/or herbs and spices instead of salt. Pre= 2.7 Post =4.0
- E. Eat lower sodium foods at restaurants Pre= 1.5 Post= 2.4
- F. Take my blood pressure medicine. Pre= 4.1 Post =4.6

## 4. Associated Knowledge Areas

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

### Outcome #55

#### 1. Outcome Measures

The number of Urban EFNEP participants who prepare shopping list before shopping

#### 2. Associated Institution Types

- 1890 Extension

#### 3a. Outcome Type:

Change in Action Outcome Measure

#### 3b. Quantitative Outcome

Year	Actual
2015	81

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

##### Issue (Who cares and Why)

Low-income families must stretch food dollars to ensure enough food is available until the next pay cycle, while also incorporating healthy foods into the diet.

##### What has been done

Urban EFNEP Program Assistants taught participants how to create a shopping list and plan meals based on what was already on hand in the home, in season, and on sale.

**Results**

A&M Extension- 68% (81 of 119) adult participants more often used a list for grocery shopping

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
703	Nutrition Education and Behavior

**Outcome #56**

**1. Outcome Measures**

The number of Urban EFNEP participants who read food labels when purchasing food

**2. Associated Institution Types**

- 1890 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2015	93

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

**Issue (Who cares and Why)**

Knowing how to read food labels is essential in selecting foods that line up with your personal dietary goals, i.e control blood pressure, control diabetes, lose/maintain weight.

**What has been done**

Urban EFNEP Program assistants taught lessons on how to read a food label

**Results**

Alabama A&M Extension- 79% (93 of 117) adult participants more often used the "Nutrition Facts" on food labels to make food choices

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
701	Nutrient Composition of Food

**Outcome #57**

**1. Outcome Measures**

The number of Urban EFNEP participants who follow food safety tips

**2. Associated Institution Types**

- 1890 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2015	63

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

**Issue (Who cares and Why)**

The Centers for Disease Control report that each year, an estimated 76 million Americans get sick from eating contaminated or improperly prepared foods. Properly handling foods at home is important to staying healthy

**What has been done**

Participants were taught lessons on hand-washing and the basic principles of Clean, Separate, Cook, and Chill.

**Results**

Alabama A&M Extension 37% (44 of 119) more often followed the recommended practices of not allowing meat and dairy foods to sit out for more than two hours  
53% (63 of 119) more often followed the recommended practices of not thawing foods at room temperature

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
724	Healthy Lifestyle

**Outcome #58**

**1. Outcome Measures**

The number of Urban EFNEP participants who manage food dollars better

**2. Associated Institution Types**

- 1890 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

Year	Actual
2015	183

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

**Issue (Who cares and Why)**

Limited resource families often face the challenge of stretching dollars to meet all your needs including rent, utilities, medicine and food. Often, because of this challenge, many families don't have enough food to last the entire month. According to the Alabama Food Bank Association, 19.2% of Alabama's population is food insecure

**What has been done**

Participants are taught lessons to help stretch food dollars including planning meals based on what is on hand, what is on sale and what is in season. Participants are also taught the benefit of making and using a grocery list and how to calculate unit price to make sure the most economical choice is made.

**Results**

Alabama A&M

83% (99 of 119) more often planned meals in advance.

70% (83 of 118) more often compared prices when shopping.

**4. Associated Knowledge Areas**

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

**Outcome #59**

**1. Outcome Measures**

The number of Urban EFNEP participants who ran out of food less often before the end of the month

**2. Associated Institution Types**

- 1890 Extension

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2015	37

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

**Issue (Who cares and Why)**

Limited resource families often face the challenge of stretching dollars to meet all your needs including rent, utilities, medicine and food. Often, because of this challenge, many families don't have enough food to last the entire month. According to the Alabama Food Bank Association, 19.2% of Alabama's population is food insecure

**What has been done**

Participants are taught lessons to help stretch food dollars including planning meals based on what is on hand, what is on sale and what is in season. Participants are also taught the benefit of making and using a grocery list and how to calculate unit price to make sure the most economical choice is made.

**Results**

Alabama A&M Extension

31% (37 out of 119) less often ran out of food before the end of the month.

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
724	Healthy Lifestyle

**Outcome #60**

**1. Outcome Measures**

The number of Urban EFNEP participants who improved behaviors associated with healthy foods and beverages

**2. Associated Institution Types**

- 1890 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2015	118

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

**Issue (Who cares and Why)**

Low-income families contend with barriers that may impede their ability to make healthy food and beverage choices. Barriers exist on many levels, individual, environmental, and governmental levels. Knowledge of the importance of consuming health foods and beverages is important.

**What has been done**

Participants are taught lessons on MyPlate, healthy snacking, etc.

**Results**

Alabama A&M Extension

68% (80 of 118) more often thought about healthy food choices when deciding what to feed their families

36% (43 of 118) more often prepared foods without salt

48% (57 of 118) reported their children ate breakfast more often

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
703	Nutrition Education and Behavior
724	Healthy Lifestyle



**Outcome #61**

**1. Outcome Measures**

The number of Urban EFNEP participants who increased consumption of fruits and vegetables

**2. Associated Institution Types**

- 1890 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2015	46

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

**Issue (Who cares and Why)**

Consuming fruits and vegetables are an important part of a healthy lifestyle. MyPlate and Dietary Guidelines emphasis consuming fruits and vegetables daily.

**What has been done**

Participants were taught lessons on basic nutrition and MyPlate

**Results**

Alabama A&M Extension

15% (7 of 46)of Kindergarten to 2nd grade participants improved in their response to: Circle vegetables

35% (16 of 46) of Kindergarten to 2nd grade participants improved in their response to: Circle fruits

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
703	Nutrition Education and Behavior
724	Healthy Lifestyle

## **Outcome #62**

### **1. Outcome Measures**

The number of Urban EFNEP youth who increased the consumption of fruits and vegetables.

### **2. Associated Institution Types**

- 1890 Extension

### **3a. Outcome Type:**

Change in Action Outcome Measure

### **3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2015	81

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

#### **Issue (Who cares and Why)**

Consuming fruits and vegetables are an important part of a healthy lifestyle. MyPlate and Dietary Guidelines emphasis consuming fruits and vegetables daily.

#### **What has been done**

Participants were taught lessons on basic nutrition and MyPlate

#### **Results**

Alabama A&M Extension

53% (43 of 81) youth participants in 3rd - 8th grade, increased consumption of vegetables

49% (40 of 81) youth participants in 3rd - 8th grade, increased consumption of fruits

### **4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
703	Nutrition Education and Behavior
724	Healthy Lifestyle

**Outcome #63**

**1. Outcome Measures**

The number of Urban EFNEP youth who increased knowledge about physical activity

**2. Associated Institution Types**

- 1890 Extension

**3a. Outcome Type:**

Change in Knowledge Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2015	53

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

**Issue (Who cares and Why)**

Childhood obesity continues to be an issue across the United States. Increasing physical activity is important in reducing the prevalence of childhood obesity

**What has been done**

Urban EFNEP educators taught physical activity classes to youth 3-5th grade

**Results**

Alabama A&M Extension

25% (13 of 53) youth participants in 3rd-5th grades improved responses to being physical activity being fun

12% (6 of 52) youth participants in 3rd-5th grades improved responses to: Being active is good for me

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
703	Nutrition Education and Behavior
724	Healthy Lifestyle

**Outcome #64**

**1. Outcome Measures**

The number of Urban EFNEP youth who increased physical activity

**2. Associated Institution Types**

- 1890 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2015	29

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

**Issue (Who cares and Why)**

Childhood obesity continues to be an issue across the United States. Increasing physical activity is important in reducing the prevalence of childhood obesity

**What has been done**

Urban EFNEP educators taught physical activity lessons to youth 3-5 grade

**Results**

Alabama A&M Extension

25% (15 of 29) youth participants in 6th - 8th grade increased number of days active at least 1 hour

50% (14 of 28) youth participants in 6th - 8th grade increased the number of days being very active

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
703	Nutrition Education and Behavior
724	Healthy Lifestyle

### **Outcome #65**

#### **1. Outcome Measures**

The number of Urban EFNEP youth who improve on food safety practices

#### **2. Associated Institution Types**

- 1890 Extension

#### **3a. Outcome Type:**

Change in Action Outcome Measure

#### **3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2015	35

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

##### **Issue (Who cares and Why)**

The Centers for Disease Control report that each year, an estimated 76 million Americans get sick from eating contaminated or improperly prepared foods. Children can learn proper hand washing techniques along with how to refrigerate foods and handle leftovers and washing produce.

##### **What has been done**

Youth participants were taught proper hand-washing techniques and the importance of handling leftovers properly

##### **Results**

Alabama A&M Extension

42% (35 of 82) youth participants in 3rd - 8th grade improved in their responses to wash my hands before eating/food prep.

#### **4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
724	Healthy Lifestyle

**Outcome #66**

**1. Outcome Measures**

The number of Urban SNAP-Ed participants who understand basic nutrition concepts

**2. Associated Institution Types**

- 1890 Extension

**3a. Outcome Type:**

Change in Knowledge Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2015	1458

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

**Issue (Who cares and Why)**

The prevalence of obesity/overweight continues to be an issue of concern within the United States. Although all states are confronted with this issue, 33.5% of adult Alabamians report being obese. In 2011, 18.6% of Alabama youth 10-17 years old were obese

**What has been done**

Adult participants were taught a series of 10 lessons from the Wise Eating for a LifeTime of Health Curriculum (WEALTH). USNAP-Ed Program Assistants teach participants about basic nutrition, food safety, meal preparation, food resource management, and the importance of physical activity.

Youth participants were taught an adapted version of the Power of Choice curriculum. During the 10 lessons, topics include, basic nutrition, importance of physical activity, healthy snacking, controlling emotional eating and food safety.

**Results**

Key Indicator: How clearly do you understand the concept of nutrition?

Result: The percentage of adult participant responses of very clear or clear increased from 57% to 85% resulting in a 28 percent increase.

Key Indicator: How clearly do you feel you understand the relationship between health, wellness and nutrition?

Result: The percentage of adult participant responses of very clear or clear increased from 54% to 85%, resulting in a 31 percent increase.

Alabama A&M Extension

Key Indicator: How clearly do you feel you understand the six major nutrients (carbohydrates, proteins, fats, vitamins, minerals and water) and their function in the body?

The percentage of adult participant responses of very clear increased from 47% to 85%, resulting in a 38 percent increase.

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
702	Requirements and Function of Nutrients and Other Food Components

**Outcome #67**

**1. Outcome Measures**

The number of Urban SNAP-Ed participants who are physically active

**2. Associated Institution Types**

- 1890 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

Year	Actual
2015	3757

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

**Issue (Who cares and Why)**

The prevalence of obesity/overweight continues to be an issue of concern within the United States. Although all states are confronted with this issue, 33.5% of adult Alabamians report being obese. In 2011, 18.6% of Alabama youth 10-17 years old were obese

**What has been done**

Youth and adult participants were taught the importance of physical activity, recommendations for physical activity times, and physical activity examples

**Results**

Alabama A&M Extension The percentage of adult participant engaged in some type of physical activity each day, such as walking, jogging, or swimming increased from 56% to 80%, a 24 percent increase. The percentage of youth participants increased from 46% to 59% resulting in a 13 percent increase.

#### 4. Associated Knowledge Areas

KA Code	Knowledge Area
724	Healthy Lifestyle

#### Outcome #68

##### 1. Outcome Measures

Increase in #/% of participants that follow MyPlate/Dietary Guidelines recommendations

##### 2. Associated Institution Types

- 1890 Extension

##### 3a. Outcome Type:

Change in Action Outcome Measure

##### 3b. Quantitative Outcome

Year	Actual
2015	3757

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

###### **Issue (Who cares and Why)**

The prevalence of obesity/overweight continues to be an issue of concern within the United States. Although all states are confronted with this issue, 33.5% of adult Alabamians report being obese. In 2011, 18.6% of Alabama youth 10-17 years old were obese

###### **What has been done**

Participants were instructed on the current food guidance systems, MyPlate and 2010 Dietary Guidelines for Americans

###### **Results**

Alabama A&M Extension

The percentage of youth participant who choose foods based on MyPlate increased from 26% to 48%, resulting in a 22 percent increase.

The percentage of adult participant who eat at least 6 ounces of bread, cereal rice, or pasta per day increased from 23% to 61%, a 38 percent increase.

#### 4. Associated Knowledge Areas

KA Code	Knowledge Area
724	Healthy Lifestyle



**Outcome #69**

**1. Outcome Measures**

The number of Urban SNAP-Ed participants who plan meals based on what's on hand, on sale, and in season

**2. Associated Institution Types**

- 1890 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2015	1458

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

**Issue (Who cares and Why)**

Low income families/individuals must spend their food dollars wisely in order to have enough food to last until the next pay cycle while also including healthy foods into their diets.

**What has been done**

Adult participants were taught how to create a shopping list and plan meals based on what is on sale, on hand and in season

**Results**

Alabama A&M Extension

The percentage of adult participants who planned meals based on what foods were on hand, in season, or on sale increased from 23% to 69%, a 46 percent increase

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
703	Nutrition Education and Behavior
724	Healthy Lifestyle

**Outcome #70**

**1. Outcome Measures**

Number Urban SNAP-Ed participants who increase fruit and vegetable consumption

**2. Associated Institution Types**

- 1890 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

Year	Actual
2015	3757

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

**Issue (Who cares and Why)**

The prevalence of obesity/overweight continues to be an issue of concern within the United States. Although all states are confronted with this issue, 33.5% of adult Alabamians report being obese. In 2011, 18.6% of Alabama youth 10-17 years old were obese. Replacing unhealthy foods with fruits and vegetables is a healthy change that can result in weight loss

**What has been done**

Participants were taught fruit and vegetable recommendations from MyPlate and the 2010 Dietary Guidelines for Americans

**Results**

Alabama A&M Extension The percentage of adult participant who eat 2 cups of different types of fruit or drink ¾ cup or more of fruit juice per day increased from 20 % to 53%, a 33 percent increase.

The percentage of adult participant who eat 2 ½ cups of different types of vegetables or drink ¾ cup of vegetable juice per day increased from 24% to 55%, a 31 percent increase.

The percentage of youth participants who eat 2 or more cups of different types of fruit or drink ¾ cup or more of fruit juice per day increased from 34% to 47%, resulting in a 13 percent increase.

The percentage of youth participant who eat 2 ½ cups of different types of vegetables or drink ¾ cup of vegetable juice per day increased from 27% to 47%, resulting in a 20 percent increase.

**4. Associated Knowledge Areas**

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

### **Outcome #71**

#### **1. Outcome Measures**

Increase in #/% of Urban SNAP-ED participants who read food labels when purchasing food

#### **2. Associated Institution Types**

- 1890 Extension

#### **3a. Outcome Type:**

Change in Action Outcome Measure

#### **3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2015	26

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

##### **Issue (Who cares and Why)**

The prevalence of obesity/overweight continues to be an issue of concern within the United States. Although all states are confronted with this issue, 33.5% of adult Alabamians report being obese. Being aware of the nutrient composition of food products by reading the food label, can assist participants in making healthier food choices

##### **What has been done**

Participants were taught how to read food labels

##### **Results**

Alabama A&M Extension The percentage of adult participant who use food labels for information on serving size, nutrient content, and listing of ingredients when buying food increased from 49% to 75%, a 26 percent increase.

#### **4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
701	Nutrient Composition of Food

**Outcome #72**

**1. Outcome Measures**

The number of ALProHealth Community Coalition members who increased knowledge of evidence-based strategies to combat obesity

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Knowledge Outcome Measure

**3b. Quantitative Outcome**

Year	Actual
2015	183

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

**Issue (Who cares and Why)**

While more than one-third of adults in Alabama are obese, rates of obesity and related illnesses are disproportionately higher among rural and limited resource individuals. Characteristics of the community, such as the access to healthy food sources and physical activity sites, can play a key role in influencing obesity-related behaviors. Rural southern populations experience disadvantageous environments that contribute to increased obesity rates. Understanding which characteristics of the community have the heaviest impact on obesity in rural Alabama is critical to developing an appropriate intervention strategy.

**What has been done**

ALProHealth is an obesity-prevention program for residents of Alabama's fourteen counties with adult obesity rates of greater than forty percent. Coalitions consisting of community champions were formed in all fourteen counties. Through policy, system, and environmental changes, Community Coalitions provided guidance on the implementation of nutrition education opportunities, increased access to healthy food options and created safe, affordable places for physical activity.

**Results**

Across the fourteen counties there are a total of 183 members of Community Coalitions. The Coalition members were educated by the ALProHealth Program Management Team on the evidence-based strategies to prevent and reduce obesity.

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
724	Healthy Lifestyle

**Outcome #73**

**1. Outcome Measures**

The number of residents in ALProHealth ( Bibb County) who have access to healthier foods at grocery stores

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2015	7638

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

**Issue (Who cares and Why)**

While more than one-third of adults in Alabama are obese, rates of obesity and related illnesses are disproportionately higher among rural and limited resource individuals. Characteristics of the community, such as the access to healthy food sources and physical activity sites, can play a key role in influencing obesity-related behaviors. Rural southern populations experience disadvantageous environments that contribute to increased obesity rates. Understanding which characteristics of the community have the heaviest impact on obesity in rural Alabama is critical to developing an appropriate intervention strategy.

**What has been done**

ALProHealth is an obesity-prevention program for residents of Alabama's fourteen counties with adult obesity rates of greater than forty percent. Coalitions consisting of community champions were formed in all fourteen counties. Through policy, system, and environmental changes, Community Coalitions provided guidance on the implementation of nutrition education opportunities, increased access to healthy food options and created safe, affordable places for physical activity.

**Results**

Food Outlet in Brent/Centreville, AL marketed healthy foods through using a healthy checkout incentive. Shoppers who spend more than \$25 on designated healthy foods receive a reusable grocery bag. The bag also promotes the "It's called getting healthy Bibb County" initiative, which is a partnership among several stakeholders in the county.

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
724	Healthy Lifestyle

**Outcome #74**

**1. Outcome Measures**

The number of children in ALProHealth community (Coosa County- Rockford) with increased opportunity for physical activity as a result playground equipment at the local park ProHealth community

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

Year	Actual
2015	65

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

**Issue (Who cares and Why)**

While more than one-third of adults in Alabama are obese, rates of obesity and related illnesses are disproportionately higher among rural and limited resource individuals. Characteristics of the community, such as the access to healthy food sources and physical activity sites, can play a key role in influencing obesity-related behaviors. Rural southern populations experience disadvantageous environments that contribute to increased obesity rates. Understanding which characteristics of the community have the heaviest impact on obesity in rural Alabama is critical to developing an appropriate intervention strategy.

**What has been done**

ALProHealth is an obesity-prevention program for residents of Alabama's fourteen counties with adult obesity rates of greater than forty percent. Coalitions consisting of community champions were formed in all fourteen counties. Through policy, system, and environmental changes, Community Coalitions provided guidance on the implementation of nutrition education opportunities, increased access to healthy food options and created safe, affordable places for physical activity.

**Results**

64 children, age fourteen and younger, in the Town of Rockford now have access to a safe location for physical activity. Previously, the park and equipment were unsafe and outdated. The town also made improvements to other areas of the park in which the playground is located.

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
724	Healthy Lifestyle

**Outcome #75**

**1. Outcome Measures**

the number of residents in ALProHealth communities ( Aliceville- Pickens County) with increased opportunity for physical activity as a result of outdoor fitness equipment

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2015	17392

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

**Issue (Who cares and Why)**

While more than one-third of adults in Alabama are obese, rates of obesity and related illnesses are disproportionately higher among rural and limited resource individuals. Characteristics of the community, such as the access to healthy food sources and physical activity sites, can play a key role in influencing obesity-related behaviors. Rural southern populations experience disadvantageous environments that contribute to increased obesity rates. Understanding which characteristics of the community have the heaviest impact on obesity in rural Alabama is critical to developing an appropriate intervention strategy.

**What has been done**

ALProHealth is an obesity-prevention program for residents of Alabama's fourteen counties with adult obesity rates of greater than forty percent. Coalitions consisting of community champions were formed in all fourteen counties. Through policy, system, and environmental changes, Community Coalitions provided guidance on the implementation of nutrition education opportunities, increased access to healthy food options and created safe, affordable places for physical activity.

**Results**

17,392 community members, ages 10 and older, in the communities of Aliceville, Brantley, Eufaula, Luverne and Pine Hill now have access to outdoor fitness equipment. The equipment pieces are located in parks and around walking trails. This allows for people to access fitness equipment free of charge and on a schedule that is convenient for them.

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
724	Healthy Lifestyle

**Outcome #76**

**1. Outcome Measures**

The number of residents in ALProHealth communities (Mt.Hebron- Greene County) with increased access to an affordable indoor fitness facility

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

Year	Actual
2015	405

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

**Issue (Who cares and Why)**

While more than one-third of adults in Alabama are obese, rates of obesity and related illnesses are disproportionately higher among rural and limited resource individuals. Characteristics of the community, such as the access to healthy food sources and physical activity sites, can play a key role in influencing obesity-related behaviors. Rural southern populations experience disadvantageous environments that contribute to increased obesity rates. Understanding which characteristics of the community have the heaviest impact on obesity in rural Alabama is critical to developing an appropriate intervention strategy.

**What has been done**

ALProHealth is an obesity-prevention program for residents of Alabama's fourteen counties with adult obesity rates of greater than forty percent. Coalitions consisting of community champions were formed in all fourteen counties. Through policy, system, and environmental changes, Community Coalitions provided guidance on the implementation of nutrition education opportunities, increased access to healthy food options and created safe, affordable places for physical activity.

**Results**

405 community members, ages 10 and older, in the Greene County communities of Boligee, Mt. Hebron and West Greene now have access to an indoor fitness facility. The equipment pieces are located in the SCORE Community Center in Mt. Hebron. This allows for people to access fitness equipment at a low cost and on a schedule that is convenient for them.

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
724	Healthy Lifestyle



**Outcome #77**

**1. Outcome Measures**

The number of 3rd graders who adopted healthy behaviors in 14 ALProHealth counties

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

Year	Actual
2015	926

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

**Issue (Who cares and Why)**

While more than one-third of adults in Alabama are obese, rates of obesity and related illnesses are disproportionately higher among rural and limited resource individuals. Characteristics of the community, such as the access to healthy food sources and physical activity sites, can play a key role in influencing obesity-related behaviors. Rural southern populations experience disadvantageous environments that contribute to increased obesity rates. Understanding which characteristics of the community have the heaviest impact on obesity in rural Alabama is critical to developing an appropriate intervention strategy.

**What has been done**

ALProHealth is an obesity-prevention program for residents of Alabama's fourteen counties with adult obesity rates of greater than forty percent. Coalitions consisting of community champions were formed in all fourteen counties. Through policy, system, and environmental changes, Community Coalitions provided guidance on the implementation of nutrition education opportunities, increased access to healthy food options and created safe, affordable places for physical activity.

**Results**

A total of 926 third graders participated in the SNAP-Ed Body Quest classes in ALProHealth counties. Body Quest is a childhood obesity prevention program in schools with 50 percent or more of students receiving free or reduced lunch.

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
703	Nutrition Education and Behavior

**Outcome #78**

**1. Outcome Measures**

Increase in number of community members with access to healthier food options through a new or enhanced community garden

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

Year	Actual
2015	34952

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

**Issue (Who cares and Why)**

While more than one-third of adults in Alabama are obese, rates of obesity and related illnesses are disproportionately higher among rural and limited resource individuals. Characteristics of the community, such as the access to healthy food sources and physical activity sites, can play a key role in influencing obesity-related behaviors. Rural southern populations experience disadvantageous environments that contribute to increased obesity rates. Understanding which characteristics of the community have the heaviest impact on obesity in rural Alabama is critical to developing an appropriate intervention strategy.

**What has been done**

ALProHealth is an obesity-prevention program for residents of Alabama's fourteen counties with adult obesity rates of greater than forty percent. Coalitions consisting of community champions were formed in all fourteen counties. Through policy, system, and environmental changes, Community Coalitions provided guidance on the implementation of nutrition education opportunities, increased access to healthy food options and created safe, affordable places for physical activity.

**Results**

Barbour, Bullock, Chambers, Cullman and Sumter Counties established or enhanced community gardens. Gardens were established either in-ground or within raised beds/containers.

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
724	Healthy Lifestyle

**Outcome #79**

**1. Outcome Measures**

The number of ALProHealth community members with access to fresh, locally grown produce through enhancement or establishment of a Farmers Market.

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

Year	Actual
2015	17516

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

**Issue (Who cares and Why)**

While more than one-third of adults in Alabama are obese, rates of obesity and related illnesses are disproportionately higher among rural and limited resource individuals. Characteristics of the community, such as the access to healthy food sources and physical activity sites, can play a key role in influencing obesity-related behaviors. Rural southern populations experience disadvantageous environments that contribute to increased obesity rates. Understanding which characteristics of the community have the heaviest impact on obesity in rural Alabama is critical to developing an appropriate intervention strategy.

**What has been done**

ALProHealth is an obesity-prevention program for residents of Alabama's fourteen counties with adult obesity rates of greater than forty percent. Coalitions consisting of community champions were formed in all fourteen counties. Through policy, system, and environmental changes, Community Coalitions provided guidance on the implementation of nutrition education opportunities, increased access to healthy food options and created safe, affordable places for physical activity.

**Results**

The cities of Eufaula, Gainesville, Panola, Rockford and Union Spring established new or enhanced existing Farmers Markets. Enhancement was accomplished through marketing, purchasing of shade structures and tables and creation of new food displays.

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
724	Healthy Lifestyle

**Outcome #80**

**1. Outcome Measures**

Number of low resourced families in ALProHealth communities with increased access to healthy and affordable food from food banks

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2015	700

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

**Issue (Who cares and Why)**

While more than one-third of adults in Alabama are obese, rates of obesity and related illnesses are disproportionately higher among rural and limited resource individuals. Characteristics of the community, such as the access to healthy food sources and physical activity sites, can play a key role in influencing obesity-related behaviors. Rural southern populations experience disadvantageous environments that contribute to increased obesity rates. Understanding which characteristics of the community have the heaviest impact on obesity in rural Alabama is critical to developing an appropriate intervention strategy.

**What has been done**

ALProHealth is an obesity-prevention program for residents of Alabama's fourteen counties with adult obesity rates of greater than forty percent. Coalitions consisting of community champions were formed in all fourteen counties. Through policy, system, and environmental changes, Community Coalitions provided guidance on the implementation of nutrition education opportunities, increased access to healthy food options and created safe, affordable places for physical activity.

**Results**

Two food banks in the City of Cullman were provided new commercial refrigeration, freezer and dehydration units. The food banks often receive large quantities of fresh produce they are unable to disperse. The equipment allows the food banks to process and store the food until families are provided their monthly distribution.

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
724	Healthy Lifestyle

**Outcome #81**

**1. Outcome Measures**

Increase in the number of ALProHealth community members with access to parks or walking trails with improved aesthetics and enhanced safety

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2015	4630

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

**Issue (Who cares and Why)**

While more than one-third of adults in Alabama are obese, rates of obesity and related illnesses are disproportionately higher among rural and limited resource individuals. Characteristics of the community, such as the access to healthy food sources and physical activity sites, can play a key role in influencing obesity-related behaviors. Rural southern populations experience disadvantageous environments that contribute to increased obesity rates. Understanding which characteristics of the community have the heaviest impact on obesity in rural Alabama is critical to developing an appropriate intervention strategy.

**What has been done**

ALProHealth is an obesity-prevention program for residents of Alabama's fourteen counties with adult obesity rates of greater than forty percent. Coalitions consisting of community champions were formed in all fourteen counties. Through policy, system, and environmental changes, Community Coalitions provided guidance on the implementation of nutrition education opportunities, increased access to healthy food options and created safe, affordable places for physical activity.

**Results**

The communities of Centreville, Fort Deposit and Rockford enhanced local parks by improving safety through installing lighting and fencing. Aesthetics were also improved through planting shade trees and installing benches and trashcans.

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
724	Healthy Lifestyle

**Outcome #82**

**1. Outcome Measures**

Number of ALProHealth community members (Tuskegee- Macon County) with increased access to safe places for physical activity as a result of a renovated walking trail

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2015	9435

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

**Issue (Who cares and Why)**

While more than one-third of adults in Alabama are obese, rates of obesity and related illnesses are disproportionately higher among rural and limited resource individuals. Characteristics of the community, such as the access to healthy food sources and physical activity sites, can play a key role in influencing obesity-related behaviors. Rural southern populations experience disadvantageous environments that contribute to increased obesity rates. Understanding which characteristics of the community have the heaviest impact on obesity in rural Alabama is critical to developing an appropriate intervention strategy.

**What has been done**

ALProHealth is an obesity-prevention program for residents of Alabama's fourteen counties with adult obesity rates of greater than forty percent. Coalitions consisting of community champions were formed in all fourteen counties. Through policy, system, and environmental changes, Community Coalitions provided guidance on the implementation of nutrition education opportunities, increased access to healthy food options and created safe, affordable places for physical activity.

**Results**

The Abbott Park Walking Trail in the City of Tuskegee had unusable portions due to improper drainage and broken pavement. ALProHealth partnered with the City of Tuskegee and the Macon County Commission to complete the work. As a result, 9435 residents have increased access to safe places for physical activity.

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
724	Healthy Lifestyle

**Outcome #83**

**1. Outcome Measures**

the number of children who increased the consumption of healthier food and beverages through a faith based healthy snack initiative

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

Year	Actual
2015	85

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

**Issue (Who cares and Why)**

While more than one-third of adults in Alabama are obese, rates of obesity and related illnesses are disproportionately higher among rural and limited resource individuals. Characteristics of the community, such as the access to healthy food sources and physical activity sites, can play a key role in influencing obesity-related behaviors. Rural southern populations experience disadvantageous environments that contribute to increased obesity rates. Understanding which characteristics of the community have the heaviest impact on obesity in rural Alabama is critical to developing an appropriate intervention strategy.

**What has been done**

ALProHealth is an obesity-prevention program for residents of Alabama's fourteen counties with adult obesity rates of greater than forty percent. Coalitions consisting of community champions were formed in all fourteen counties. Through policy, system, and environmental changes, Community Coalitions provided guidance on the implementation of nutrition education opportunities, increased access to healthy food options and created safe, affordable places for physical activity.

**Results**

A healthy snack was provided each day for the 85 Vacation Bible School participants. The majority of the children were from SNAP-Ed eligible households. To create appeal for the new healthier snacks, the SNAP-Ed educator led group tastings of healthy foods. Water was served in place of sugar-sweetened beverages to further improve access to healthy snacks.

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
703	Nutrition Education and Behavior

**Outcome #84**

**1. Outcome Measures**

Percent increase in the type of healthier food and beverage options available in vending machines in ALProHealth communities

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

Year	Actual
2015	25

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

**Issue (Who cares and Why)**

While more than one-third of adults in Alabama are obese, rates of obesity and related illnesses are disproportionately higher among rural and limited resource individuals. Characteristics of the community, such as the access to healthy food sources and physical activity sites, can play a key role in influencing obesity-related behaviors. Rural southern populations experience disadvantageous environments that contribute to increased obesity rates. Understanding which characteristics of the community have the heaviest impact on obesity in rural Alabama is critical to developing an appropriate intervention strategy.

**What has been done**

ALProHealth is an obesity-prevention program for residents of Alabama's fourteen counties with adult obesity rates of greater than forty percent. Coalitions consisting of community champions were formed in all fourteen counties. Through policy, system, and environmental changes, Community Coalitions provided guidance on the implementation of nutrition education opportunities, increased access to healthy food options and created safe, affordable places for physical activity.

**Results**

Through a negotiated change in vendor agreements, a 25% improvement in healthy choices of foods and beverages offered through vending machines was made in Boys and Girls Clubs in Eufaula.

**4. Associated Knowledge Areas**

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

### **Outcome #85**

#### **1. Outcome Measures**

Increase in % of participants who are physically active as a result of the Be Healthy School Initiative

#### **2. Associated Institution Types**

- 1890 Extension
- 1890 Research

#### **3a. Outcome Type:**

Change in Action Outcome Measure

#### **3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2015	549

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

##### **Issue (Who cares and Why)**

In 2012, Alabama ranked in top 13 states for highest prevalence of obesity in the nation. African Americans represent 90% of the population in Tuskegee. Nearly 50% of the youth in Macon County are not physically active. There is limited physical activity outside of the Physical Education (PE) classroom. The elementary schools in Tuskegee, AL are located in a food desert, and there is limited nutrition education in the classroom. The lack of access to healthy food choices, hands-on nutrition education, and physical activity predisposes our youth to the development of obesity, diabetes, and heart disease which prevents the youth from becoming productive citizens and leaders in this nation.

##### **What has been done**

The Be Healthy Elementary School Initiative provided an environment for K-3rd graders, parents and teachers to participate in fun fitness in order to increase the minutes per week of student exercise. After the PTA meeting, parents joined everyone in the gym to begin aerobics or other fitness activity during Family Fun Nights. Students and teachers were provided with pedometers. Healthy incentives were given to the teachers and students who took the most steps. Teachers discussed the lunchrooms fruit or vegetable of the day, planned field trips to the local grocery stores and created in-class room grocery stores. Purchased fitness equipment, scales, and blood pressure monitors were used to create an in-school fitness center for parents and teachers.

##### **Results**

Tuskegee - Research and Extension

As a result of the Be Healthy School Initiative third graders in Tuskegee, AL increased student

exercise and recess participation from 0% to 95%.

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
703	Nutrition Education and Behavior
724	Healthy Lifestyle
802	Human Development and Family Well-Being
805	Community Institutions, Health, and Social Services
806	Youth Development

**Outcome #86**

**1. Outcome Measures**

Number (or %) of Be Healthy School Initiative participant who increase physical activity

**2. Associated Institution Types**

- 1890 Extension
- 1890 Research

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2015	240

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

**Issue (Who cares and Why)**

In 2012, Alabama ranked in top 13 states for highest prevalence of obesity in the nation. African Americans represent 90% of the population in Tuskegee. Nearly 50% of the youth in Macon County are not physically active. There is limited physical activity outside of the Physical Education (PE) classroom. The elementary schools in Tuskegee, AL are located in a food desert, and there is limited nutrition education in the classroom. The lack of access to healthy food choices, hands-on nutrition education, and physical activity predisposes our youth to the development of obesity, diabetes, and heart disease which prevents the youth from becoming productive citizens and leaders in this nation.

**What has been done**

The Be Healthy Elementary School Initiative provided an environment for K-3rd graders, parents and teachers to participate in fun fitness in order to increase the minutes per week of student exercise. After the PTA meeting, parents joined everyone in the gym to begin aerobics or other

fitness activity during Family Fun Nights. Students and teachers were provided with pedometers. Healthy incentives were given to the teachers and students who took the most steps. Teachers discussed the lunchrooms fruit or vegetable of the day, planned field trips to the local grocery stores and created in-class room grocery stores. Purchased fitness equipment, scales, and blood pressure monitors were used to create an in-school fitness center for parents and teachers

**Results**

Tuskegee Research and Extension -There was an increase in the number of steps kindergarten and 1st grade students took from the 1st to 2nd semester. There was an increase in step monitoring from 0 to 260 students monitoring steps.

1st Semester

Average K-Steps31056.43

Average Steps 1st Grade49766.53

2nd Semester Average Steps

Average K58996.66

Average 1st78479.5

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
703	Nutrition Education and Behavior
724	Healthy Lifestyle
802	Human Development and Family Well-Being
805	Community Institutions, Health, and Social Services
806	Youth Development
903	Communication, Education, and Information Delivery

**Outcome #87**

**1. Outcome Measures**

The number (or %) of students who increase knowledge of healthy behaviors through participation in in-class nutritional education

**2. Associated Institution Types**

- 1890 Extension
- 1890 Research

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2015	434

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

**Issue (Who cares and Why)**

In 2012, Alabama ranked in top 13 states for highest prevalence of obesity in the nation. African Americans represent 90% of the population in Tuskegee. Nearly 50% of the youth in Macon County are not physically active. There is limited physical activity outside of the Physical Education (PE) classroom. The elementary schools in Tuskegee, AL are located in a food desert, and there is limited nutrition education in the classroom. The lack of access to healthy food choices, hands-on nutrition education, and physical activity predisposes our youth to the development of obesity, diabetes, and heart disease which prevents the youth from becoming productive citizens and leaders in this nation.

**What has been done**

The Be Healthy Elementary School Initiative provided an environment for K-3rd graders, parents and teachers to participate in fun fitness in order to increase the minutes per week of student exercise. After the PTA meeting, parents joined everyone in the gym to begin aerobics or other fitness activity during Family Fun Nights. Students and teachers were provided with pedometers. Healthy incentives were given to the teachers and students who took the most steps. Teachers discussed the lunchrooms fruit or vegetable of the day, planned field trips to the local grocery stores and created in-class room grocery stores. Purchased fitness equipment, scales, and blood pressure monitors were used to create an in-school fitness center for parents and teachers.

**Results**

Tuskegee Research and Extension- 434 K-3rd graders increased knowledge of healthy behaviors through weekly nutritional education inside of the classroom

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
703	Nutrition Education and Behavior
724	Healthy Lifestyle
802	Human Development and Family Well-Being
805	Community Institutions, Health, and Social Services
806	Youth Development
903	Communication, Education, and Information Delivery

**Outcome #88**

**1. Outcome Measures**

Percent change of adult participants weight loss after participating in Be Healthy School Initiative

**2. Associated Institution Types**

- 1890 Extension
- 1890 Research

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

Year	Actual
2015	3

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

**Issue (Who cares and Why)**

In 2012, Alabama ranked in top 13 states for highest prevalence of obesity in the nation. African Americans represent 90% of the population in Tuskegee. Nearly 50% of the youth in Macon County are not physically active. There is limited physical activity outside of the Physical Education (PE) classroom. The elementary schools in Tuskegee, AL are located in a food desert, and there is limited nutrition education in the classroom. The lack of access to healthy food choices, hands-on nutrition education, and physical activity predisposes our youth to the development of obesity, diabetes, and heart disease which prevents the youth from becoming productive citizens and leaders in this nation.

**What has been done**

The Be Healthy Elementary School Initiative provided an environment for K-3rd graders, parents and teachers to participate in fun fitness in order to increase the minutes per week of student exercise. After the PTA meeting, parents joined everyone in the gym to begin aerobics or other fitness activity during Family Fun Nights. Students and teachers were provided with pedometers. Healthy incentives were given to the teachers and students who took the most steps. Teachers discussed the lunchrooms fruit or vegetable of the day, planned field trips to the local grocery stores and created in-class room grocery stores. Purchased fitness equipment, scales, and blood pressure monitors were used to create an in-school fitness center for parents and teachers.

**Results**

Tuskegee Research and Extension -There was an average 3% weight loss and a decrease in BMI. The top two winners had a 13.22 and 11.14 % weight loss. The participants utilized the in-school fitness center daily.

56% of teachers in PreK-3rd Grade participated in Scale Back Alabama.

8.5 teams of teachers (2 per team) participated in a 10 week Scale Back Alabama Program from

January to April 2015.

There was an average 2.37% weight loss.

Beginning Weight =233.50 Ending Weight =228.80  
36.08

Initial BMI = 37.49Final BMI =

#### 4. Associated Knowledge Areas

KA Code	Knowledge Area
703	Nutrition Education and Behavior
724	Healthy Lifestyle
802	Human Development and Family Well-Being
805	Community Institutions, Health, and Social Services
806	Youth Development
903	Communication, Education, and Information Delivery

#### Outcome #89

##### 1. Outcome Measures

The number of TU- EFNEP participants who increase knowledge of basic nutrition concepts

##### 2. Associated Institution Types

- 1890 Extension
- 1890 Research

##### 3a. Outcome Type:

Change in Knowledge Outcome Measure

##### 3b. Quantitative Outcome

Year	Actual
2015	324

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

###### **Issue (Who cares and Why)**

Nearly one million of Alabamians are dependent on the Supplemental Nutrition Assistance Program (SNAP), with children receiving free or reduced lunches at school. Due to poor diets, and many children (27 % in 2012) and household families living in poverty, and the lack of nutrition education in many underserved populations, make Alabama families vulnerable to obesity, asthma, diabetes, heart disease, osteoporosis, colon cancer, low-birth weights and physical inactivity (27.2% in 2014).

**What has been done**

The EFNEP offers programming to a majority of underserved communities to improve access to affordable and healthy foods to able to prevent and reduce obesity among children and families. Using innovative and culturally appropriate nutrition education materials and tools to supplement existing curricula, partnerships were formed with existing and new community organizations to encourage making nutrition education and healthy lifestyles a priority in their daily activities

**Results**

TU Research and Extension: After 6 lessons and 7 programs in 6 counties, 94% of both adults and youth gained basic knowledge in nutritional concepts after pre-post analysis before and after the lessons were implemented.

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
701	Nutrient Composition of Food
702	Requirements and Function of Nutrients and Other Food Components

**Outcome #90**

**1. Outcome Measures**

The number of TU EFNEP participants increase physical activity

**2. Associated Institution Types**

- 1890 Extension
- 1890 Research

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2015	57

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

**Issue (Who cares and Why)**

Nearly one million of Alabamians are dependent on the Supplemental Nutrition Assistance Program (SNAP), with children receiving free or reduced lunches at school. Due to poor diets, and many children (27 % in 2012) and household families living in poverty, and the lack of nutrition education in many underserved populations, make Alabama families vulnerable to obesity, asthma, diabetes, heart disease, osteoporosis, colon cancer, low-birth weights and

physical inactivity (27.2% in 2014).

**What has been done**

The EFNEP offers programming to a majority of underserved communities to improve access to affordable and healthy foods to able to prevent and reduce obesity among children and families. Using innovative and culturally appropriate nutrition education materials and tools to supplement existing curricula, partnerships were formed with existing and new community organizations to encourage making nutrition education and healthy lifestyles a priority in their daily activities.

**Results**

TU Research and Extension: Participants formed the groups themselves to start implementing what they selected. Fifty seven (57) have documented walking (on average and consistently) every other day .

**4. Associated Knowledge Areas**

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

**Outcome #91**

**1. Outcome Measures**

The number of Integrative Approach to Prevention and Reduction of Overweight in Childhood Obesity in the Alabama Black Belt participants that understand basic nutrition concepts

**2. Associated Institution Types**

- 1890 Extension
- 1890 Research

**3a. Outcome Type:**

Change in Knowledge Outcome Measure

**3b. Quantitative Outcome**

Year	Actual
2015	110

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

**Issue (Who cares and Why)**

Children 8-15 years old were empowered to make the healthy food choices based on acquired nutrition knowledge geared towards reduction and prevention of overweight and obesity. The



target population is at-risk for obesity, nutrition, diet and lifestyle disparities.

**What has been done**

Implementation of nutrition, physical activity programs in four Black Belt Counties of Alabama. The nutrition curriculum included 12 modules: Health, nutrition, food groups/MyPlate, Portion Sizes, Food labels and the relationship between these topics and selected chronic diseases (obesity, heart disease and diabetes).

**Results**

TU Research and Extension: Data indicate that 100% (N= 110) participants increased understanding of basic nutrition concepts-continuing data analysis.

**4. Associated Knowledge Areas**

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

**Outcome #92**

**1. Outcome Measures**

The number of Integrative Approach to Prevention and Reduction of Overweight in Childhood Obesity in the Alabama Black Belt participants who increased physical activity

**2. Associated Institution Types**

- 1890 Extension
- 1890 Research

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

Year	Actual
2015	110

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

**Issue (Who cares and Why)**

Children 8-15 years old were empowered to make the healthy food choices based on acquired nutrition knowledge geared towards reduction and prevention of overweight and obesity. The target population is at-risk for obesity, nutrition, diet and lifestyle disparities.

**What has been done**

Implementation of nutrition, physical activity programs in four Black Belt Counties of Alabama. The nutrition curriculum included 12 modules: Health, nutrition, food groups/MyPlate, Portion Sizes, Food labels and the relationship between these topics and selected chronic diseases (obesity, heart disease and diabetes).

**Results**

TU Research and Extension: All 110 children 8-15 years at risk for overweight and obesity increased physical activity daily during the 6 week program.

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
703	Nutrition Education and Behavior
724	Healthy Lifestyle

**Outcome #93**

**1. Outcome Measures**

The number of Integrative Approach to Prevention and Reduction of Overweight in Childhood Obesity in the Alabama Black Belt participants who demonstrate the ability to compare food labels

**2. Associated Institution Types**

- 1890 Extension
- 1890 Research

**3a. Outcome Type:**

Change in Knowledge Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2015	110

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

**Issue (Who cares and Why)**

Children 8-15 years old were empowered to make the healthy food choices based on acquired nutrition knowledge geared towards reduction and prevention of overweight and obesity. The target population is at-risk for obesity, nutrition, diet and lifestyle disparities.

**What has been done**

Implementation of nutrition, physical activity programs in four Black Belt Counties of Alabama. The nutrition curriculum included 12 modules: Health, nutrition, food groups/MyPlate, Portion Sizes, Food labels and the relationship between these topics and selected chronic diseases

(obesity, heart disease and diabetes).

### Results

TU Research and Extension -All 110 participants demonstrated understanding and comparison of food labels.

## 4. Associated Knowledge Areas

KA Code	Knowledge Area
701	Nutrient Composition of Food
703	Nutrition Education and Behavior

### Outcome #94

#### 1. Outcome Measures

The number of Integrative Approach to Prevention and Reduction of Overweight in Childhood Obesity in the Alabama Black Belt participants who follow food safety tips

#### 2. Associated Institution Types

- 1890 Extension
- 1890 Research

#### 3a. Outcome Type:

Change in Action Outcome Measure

#### 3b. Quantitative Outcome

Year	Actual
2015	110

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

##### Issue (Who cares and Why)

The great majority of the targeted population will experience a food or water borne disease at some point in their lives. This highlights the importance of making sure the food we eat is not contaminated with potentially harmful bacteria, viruses, toxins and chemicals.

##### What has been done

Importance of food safety was outlined; importance of handwashing was discussed; participants were engaged in activities that helped them better understand what was learned about food safety.

### Results

TU Research and Extension: All 110 participants completed worksheet and activity sheets that demonstrated understanding and practice of food safety tips.

#### 4. Associated Knowledge Areas

KA Code	Knowledge Area
711	Ensure Food Products Free of Harmful Chemicals, Including Residues from Agricultural and Other Sources

#### Outcome #95

##### 1. Outcome Measures

Increase knowledge among participants in high-obesity Alabama Counties about healthy behaviors associated with eating

##### 2. Associated Institution Types

- 1890 Extension
- 1890 Research

##### 3a. Outcome Type:

Change in Action Outcome Measure

##### 3b. Quantitative Outcome

Year	Actual
2015	110

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

###### **Issue (Who cares and Why)**

Increased nutrition knowledge among participants will enable dietary and behavior changes overtime that will impact health comes, i.e. reduction in overweight, obesity, diabetes, and

###### **What has been done**

Implementation of nutrition, physical activity programs in four Black Belt Counties of Alabama. The nutrition curriculum included 12 modules: Health, nutrition, food groups/MyPlate, Portion Sizes, Food labels and the relationship between these topics and selected chronic diseases (obesity, heart disease and diabetes).

###### **Results**

TU Research and Extension: Preliminary data showed a reduction in BMI for all 110 youth participants. Data analysis is ongoing;

#### 4. Associated Knowledge Areas

<b>KA Code</b>	<b>Knowledge Area</b>
703	Nutrition Education and Behavior
724	Healthy Lifestyle

#### **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.)
- Other (catastrophic food poisoning)

##### **Brief Explanation**

#### **V(I). Planned Program (Evaluation Studies)**

##### **Evaluation Results**

**Champion Youth** nutrition, nutrients, nutrition facts label and physical activity knowledge significantly increased ( $p < 0.05$ ) from pre to post lessons. Youth before ( $N=264$ ), after ( $N=223$ ) and three (3) months postdelayed ( $N=186$ ) behavioral habits were assessed for consumption of fruits and vegetables. The majority responded: 1) Vegetables consumption for Pre All the time (42%), Post All the time (58%); Postdelayed All the time (48%), 2) Fruits consumption All the time for Pre 73%; Post 86% and Postdelayed 83%. Youth increased consumption of vegetables and fruits and improved physical activity time pre to post and continued threemonths post education.

**AUSNAP-Ed** Results indicated increases in fruit and vegetable consumption through both home and school environments, community engagement through social marketing messaging and PSE changes through individual efforts and community coalitions.

**ALProHEALTH-** A variety of projects were implemented in the communities, including establishing and supporting community gardens; touring local farms to educate community members on farming and gardening techniques; conducting Body Quest classes in 22 elementary schools; establishing and supporting community Farmers Markets; providing food banks with the capacity to distribute more fruits and vegetables; enhancing local parks and trails with the addition of outdoor exercise equipment; developing a new playground; establishing indoor community fitness facilities; enhancing the safety of parks through the addition of fencing and lights; and establishing community fitness groups.

**Be Healthy School Initiative** We have increased student exercise and recess participation from 0% to 95%. Pre-Initiative Recess Participation= 0% of 549 Students Post-Initiative Recess Participation= 95% of 549 students; Pre-initiative Average Student Exercise Minutes

Per week= 175

Post-Initiative Average Student Exercise Minutes Per Week= 225

There was an increase in the number of steps kindergarten and 1st grade students took from the 1st to 2nd semester. There was an increase in step monitoring from 0 to 260 students monitoring steps. There was an average 2.37% weight loss and a decrease in BMI. The top two winners had a 13.22 and 11.14 % weight loss.

**TU EFNEP** -Preliminary data and direct observations suggest that all 110 participants completed worksheet and activity sheets that demonstrated understanding and practice of food safety tips. Based on preliminary data analysis suggest that all 110 participants demonstrated understanding and comparison of food labels; Participants formed the groups themselves to start implementing what they selected. Fifty seven have documented walking every other day on average. When any group member misses a walk, it has to be made up for before the next walk or there will be penalty of that person leading two or more physical activities for the group.

### Key Items of Evaluation

**Body Quest parents:** (1) made the home environment more "vegetable friendly" by increasing accessibility of vegetables and modeling vegetable consumption for their third graders, (2) utilized tips and action prompts from a text messaging initiative and (3) reported a significant increase in vegetable consumption.

**Champion Youth** nutrition, nutrients, nutrition facts label and physical activity knowledge significantly increased ( $p < 0.05$ ) from pre to post lessons. Youth before ( $N=264$ ), after ( $N=223$ ) and three (3) months postdelayed ( $N=186$ ) behavioral habits were assessed for consumption of fruits and vegetables. The majority responded: 1) Vegetables consumption for Pre All the time (42%), Post All the time (58%); Postdelayed All the time (48%), 2) Fruits consumption All the time for Pre 73%; Post 86% and Postdelayed 83%. Youth increased consumption of vegetables and fruits and improved physical activity time pre to post and continued threemonths post education.

**Be Healthy School Initiative** We have increased student exercise and recess participation from 0% to 95%. Pre-Initiative Recess Participation= 0% of 549 Students Post-Initiative Recess Participation= 95% of 549 students; Pre-initiative Average Student Exercise Minutes Per week= 175 Post-Initiative Average Student Exercise Minutes Per Week= 225. There was an increase in the number of steps kindergarten and 1st grade students took from the 1st to 2nd semester. There was an increase in step monitoring from 0 to 260 students monitoring steps. There was an average 2.37% weight loss and a decrease in BMI. The top two winners had a 13.22 and 11.14 % weight loss.

**TU EFNEP** -Preliminary data and direct observations suggest that all 110 participants completed worksheet and activity sheets that demonstrated understanding and practice of food safety tips. Based on preliminary data analysis suggest that all 110 participants demonstrated understanding and comparison of food labels; Participants formed the groups themselves to start implementing what they selected. Fifty seven have documented walking every other day on average. When any group member misses a walk, it has to be made up for before the next walk or there will be penalty of that person leading two or more physical activities for the group.

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elementary schools; establishing and supporting community Farmers Markets; providing food banks with the capacity to distribute more fruits and vegetables; enhancing local parks and trails with the addition of outdoor exercise equipment; developing a new playground; establishing indoor community fitness facilities; enhancing the safety of parks through the addition of fencing and lights; and establishing community fitness groups.

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

**Program # 5**

**1. Name of the Planned Program**

Sustainable Energy

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
101	Appraisal of Soil Resources	10%	0%	0%	0%
102	Soil, Plant, Water, Nutrient Relationships	20%	0%	5%	5%
125	Agroforestry	0%	0%	5%	10%
201	Plant Genome, Genetics, and Genetic Mechanisms	0%	0%	5%	10%
202	Plant Genetic Resources	0%	0%	5%	10%
203	Plant Biological Efficiency and Abiotic Stresses Affecting Plants	0%	0%	5%	5%
205	Plant Management Systems	0%	0%	15%	10%
211	Insects, Mites, and Other Arthropods Affecting Plants	0%	0%	5%	5%
212	Pathogens and Nematodes Affecting Plants	0%	0%	5%	5%
216	Integrated Pest Management Systems	20%	0%	10%	10%
402	Engineering Systems and Equipment	20%	0%	5%	0%
403	Waste Disposal, Recycling, and Reuse	20%	0%	0%	0%
405	Drainage and Irrigation Systems and Facilities	0%	0%	5%	0%
601	Economics of Agricultural Production and Farm Management	0%	50%	10%	10%
603	Market Economics	10%	0%	5%	5%
605	Natural Resource and Environmental Economics	0%	0%	10%	10%
607	Consumer Economics	0%	50%	5%	5%
	<b>Total</b>	100%	100%	100%	100%

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

1. Actual amount of FTE/SYs expended this Program

**Auburn University**



2015 Tuskegee University and Auburn University and Alabama A&M University Combined Research and Extension Annual Report of Accomplishments and Results

Year: 2015	Extension		Research	
	1862	1890	1862	1890
<b>Plan</b>	1.0	4.2	10.0	9.0
<b>Actual Paid</b>	1.9	0.0	18.0	0.0
<b>Actual Volunteer</b>	0.0	0.0	0.0	0.0

**Alabama A&M University**

Year: 2015	Extension		Research	
	1862	1890	1862	1890
<b>Plan</b>	1.0	4.2	10.0	9.0
<b>Actual Paid</b>	0.0	0.1	0.0	1.3
<b>Actual Volunteer</b>	0.0	0.0	0.0	0.0

**Tuskegee University**

Year: 2015	Extension		Research	
	1862	1890	1862	1890
<b>Plan</b>	1.0	4.2	10.0	9.0
<b>Actual Paid</b>	0.0	1.3	0.0	4.7
<b>Actual Volunteer</b>	0.0	0.0	0.0	0.0

**2. Institution Name:** Auburn University

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

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
25967	0	403637	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
49332	0	405865	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
194418	0	1877529	0

**2. Institution Name:** Alabama A&M University

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

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
0	5211	0	12323
1862 Matching	1890 Matching	1862 Matching	1890 Matching
0	5211	0	12323
1862 All Other	1890 All Other	1862 All Other	1890 All Other
0	7463	0	0

**2. Institution Name:** Tuskegee University

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

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
0	98882	0	393959
1862 Matching	1890 Matching	1862 Matching	1890 Matching
0	67811	0	346760
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**

**Viable feedstock for biofuels from winter canola-**A research in progress was designed to demonstrate the feasibility and practicability of producing a viable feedstock for biofuels from winter canola, a non-traditional crop in this region is an important undertaking. Additional benefits of using the extracted oil for biodiesel and the resulting meal for aquaculture increase the paybacks of growing winter canola:

1. closed-loop system for clean renewable energy
2. source of protein in the form of fish feed from canola meal
3. organic fertilizer from fish waste products

Furthermore, glycerol by-product from the production of biodiesel will be used as a value-added product to manufacture bio-based lipids to be used for human nutrition or as biofuels. Yeast strains constructs in *Y. lipolytica* have been created with mutations to increase the production of lipids.

**Energy Efficiency and Audits in the Black Belt-**Five educational workshops and one-on -one meeting with farmers took place to better educate and communicate the various governmental , state and county programs that can be utilized once a farm energy audit has been completed. The workshops explain the audit activities in identifying all energy systems, evaluate the condition of the systems, analyze the impact of improvements to those systems, recommend improvements, and advantages of taking recommended actions.

**BIO Energy Crops-** Both laboratory and pilot-scale experiments were conducted to (1) estimate the ethanol production from sweet

sorghum (SS), sugar cane (SC), and sweetpotato (SP) by comparing ethanol concentrations among species and (2) determine the feasibility of continuous ethanol production using multiple feedstocks. Five SS cultivars (K.N. Morris, Dale, M8IE, Della and Sugar Drip), three SC cultivars (TU White, TU Blue and TU Green) and two SP cultivars (J6/66 and TU Purple), singly or as mixed feedstocks, were analyzed for Brix%, dry matter, total sugars and ethanol concentration. Continuous ethanol production using SS, SC at pilot scale was also investigated. Training on bioenergy crops (cultural practices, harvesting and process and methods involved in extracting juice or starch for fermentation and ethanol production) was conducted training for graduate and 1 undergraduate students as potential and future professionals in this field.

**Gasification-** Research is being conducted on gasification which converts one of Alabama's most abundant resources, pine trees, into a gas that can be used to produce gasoline and other liquid fuels. During gasification, temperatures are increased and the supply of oxygen limited, yielding syngas, which is made of CO, H<sub>2</sub>, CO<sub>2</sub> and CH<sub>4</sub>. Syngas is then transform into liquid fuel. Similarly, research is being conducted to optimize the growth of algae which can be converted into biodiesel fuel. Using 3-D printing the optimal substrate texture for growing different species of algae is being quantified.

## 2. Brief description of the target audience

**Viable feedstock for biofuels from winter canola-**The biodiesel produced will be provided for use as B5 to B80 formulation for our diesel operated equipment tractors at the university's research station, university's Bullgogs' buses, generators and as fuel for the Forestry Fire-Dawgs for prescribed burning activities. Students and stakeholders in the community will have access to learn from a fully functional closed-loop system whereby, otherwise wasteful plant products from agriculture are being used for improved environmental conditions.

**Sustainable Energy in the Black Belt-** Agriculture producers in Alabama Black Belt counties and Cherokee Tribe of North East Alabama (CTNEA)

**Energy Efficiency Audits in the Black Belt-** Disadvantaged farmers in the Black Belt region and undeserved minority students.

**Gasification-** Researchers, practicing engineers, students (formal classroom experience and undergraduate research experiences), biofuel start up companies and the general public.

## 3. How was eXtension used?

eXtension was not used in this program

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

### 1. Standard output measures

2015	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
<b>Actual</b>	559	567	1385	395

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

#### Patent Applications Submitted

Year: 2015

Actual: 0

**Patents listed**

**3. Publications (Standard General Output Measure)**

**Number of Peer Reviewed Publications**

2015	Extension	Research	Total
Actual	1	20	21

**V(F). State Defined Outputs**

**Output Target**

**Output #1**

**Output Measure**

- Publications  
Not reporting on this Output for this Annual Report

**Output #2**

**Output Measure**

- Rural well owners and homeowners will be exposed to a set of activities intended to improve the quality of their private water wells, and the use of energy in their homes, farms and other businesses. Underserved Black Belt area grade school students will be exposed to specific age appropriate educational activities designed to reinforce current classroom instructional curriculums on natural resource management. While targeting the youth, parents, volunteers and community leaders will also be provided necessary instructions in responsible environmental stewardship practices and principles, including information on climate change and sustainable energy.  
Not reporting on this Output for this Annual Report

**Output #3**

**Output Measure**

- The number of sustainable energy publications

Year	Actual
2015	21

**Output #4**

**Output Measure**

- Number of Black Belt homeowners trained to improve the use of energy in their homes

Year	Actual
2015	3

**Output #5**

**Output Measure**

- Number of Black Belt homeowners trained to improve the use of energy in their farms

<b>Year</b>	<b>Actual</b>
2015	3

**Output #6**

**Output Measure**

- Number of Black Belt homeowners trained to improve the use of energy in their businesses

<b>Year</b>	<b>Actual</b>
2015	5

**Output #7**

**Output Measure**

- Number of Black Belt parents trained in responsible environmental stewardship

<b>Year</b>	<b>Actual</b>
2015	5

**Output #8**

**Output Measure**

- Number of follow-up technical assistance sessions provided to disadvantaged farmers

<b>Year</b>	<b>Actual</b>
2015	5

**V(G). State Defined Outcomes**

**V. State Defined Outcomes Table of Content**

O. No.	OUTCOME NAME
1	Increased percentage of bioenergy in the overall consumption of energy
2	Development and demonstration of logistics for bioenergy production
3	Knowledge gained
4	Recommendations adopted.
5	Energy saved and produced
6	Youth participants will acquire knowledge, skills and awareness regarding well head protection, point/non-point source pollution, environmental stewardship, management of natural resources and water conservation, as well as climate change and sustainable energy. Adult participants will incorporate skills/knowledge and change behavior related to: pollution prevention, management of water resources, litter disposal and waste management, conservation and recycling of natural resources and safe and effective use of fertilizers and pesticides. Awareness will be acquired in climate change and sustainable energy.
7	The number of disadvantage farmers that conducted energy audits
8	The number of disadvantaged farmers who conducted feasibility studies

### **Outcome #1**

#### **1. Outcome Measures**

Increased percentage of bioenergy in the overall consumption of energy

#### **2. Associated Institution Types**

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

#### **3a. Outcome Type:**

Change in Knowledge Outcome Measure

#### **3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2015	0

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

##### **Issue (Who cares and Why)**

{No Data Entered}

##### **What has been done**

{No Data Entered}

##### **Results**

{No Data Entered}

#### **4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
402	Engineering Systems and Equipment
601	Economics of Agricultural Production and Farm Management
603	Market Economics
605	Natural Resource and Environmental Economics
607	Consumer Economics

**Outcome #2**

**1. Outcome Measures**

Development and demonstration of logistics for bioenergy production

**2. Associated Institution Types**

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

**3a. Outcome Type:**

Change in Knowledge Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2015	0

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

**Issue (Who cares and Why)**

{No Data Entered}

**What has been done**

{No Data Entered}

**Results**

{No Data Entered}

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
125	Agroforestry
203	Plant Biological Efficiency and Abiotic Stresses Affecting Plants
205	Plant Management Systems
211	Insects, Mites, and Other Arthropods Affecting Plants
212	Pathogens and Nematodes Affecting Plants
402	Engineering Systems and Equipment
405	Drainage and Irrigation Systems and Facilities



601	Economics of Agricultural Production and Farm Management
603	Market Economics
605	Natural Resource and Environmental Economics
607	Consumer Economics

**Outcome #3**

**1. Outcome Measures**

Knowledge gained

**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
2015	0

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

**Issue (Who cares and Why)**

{No Data Entered}

**What has been done**

{No Data Entered}

**Results**

{No Data Entered}

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
101	Appraisal of Soil Resources
102	Soil, Plant, Water, Nutrient Relationships
216	Integrated Pest Management Systems

402	Engineering Systems and Equipment
403	Waste Disposal, Recycling, and Reuse
603	Market Economics

#### **Outcome #4**

##### **1. Outcome Measures**

Recommendations adopted.

##### **2. Associated Institution Types**

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

##### **3a. Outcome Type:**

Change in Action Outcome Measure

##### **3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2015	0

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

###### **Issue (Who cares and Why)**

{No Data Entered}

###### **What has been done**

{No Data Entered}

###### **Results**

{No Data Entered}

##### **4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
101	Appraisal of Soil Resources
102	Soil, Plant, Water, Nutrient Relationships
216	Integrated Pest Management Systems
402	Engineering Systems and Equipment

403 Waste Disposal, Recycling, and Reuse  
603 Market Economics

### **Outcome #5**

#### **1. Outcome Measures**

Energy saved and produced

#### **2. Associated Institution Types**

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

#### **3a. Outcome Type:**

Change in Condition Outcome Measure

#### **3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2015	0

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

**Issue (Who cares and Why)**  
{No Data Entered}

**What has been done**  
{No Data Entered}

**Results**  
{No Data Entered}

#### **4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
101	Appraisal of Soil Resources
102	Soil, Plant, Water, Nutrient Relationships
216	Integrated Pest Management Systems
402	Engineering Systems and Equipment
403	Waste Disposal, Recycling, and Reuse

## **Outcome #6**

### **1. Outcome Measures**

Youth participants will acquire knowledge, skills and awareness regarding well head protection, point/non-point source pollution, environmental stewardship, management of natural resources and water conservation, as well as climate change and sustainable energy. Adult participants will incorporate skills/knowledge and change behavior related to: pollution prevention, management of water resources, litter disposal and waste management, conservation and recycling of natural resources and safe and effective use of fertilizers and pesticides. Awareness will be acquired in climate change and sustainable energy.

### **2. Associated Institution Types**

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

### **3a. Outcome Type:**

Change in Condition Outcome Measure

### **3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2015	0

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

#### **Issue (Who cares and Why)**

{No Data Entered}

#### **What has been done**

{No Data Entered}

#### **Results**

{No Data Entered}

### **4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
125	Agroforestry
402	Engineering Systems and Equipment

403	Waste Disposal, Recycling, and Reuse
405	Drainage and Irrigation Systems and Facilities
601	Economics of Agricultural Production and Farm Management
605	Natural Resource and Environmental Economics

## **Outcome #7**

### **1. Outcome Measures**

The number of disadvantage farmers that conducted energy audits

### **2. Associated Institution Types**

- 1890 Extension
- 1890 Research

### **3a. Outcome Type:**

Change in Action Outcome Measure

### **3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2015	3

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

#### **Issue (Who cares and Why)**

- Agricultural producers and small rural Businesses.
- US is the largest single consumer of energy. The average farm small businesses communities spend about \$2000/year on energy.
- Agricultural producers, small businesses and rural communities can save from the use of oil and gas sources to generate electricity for farms and small businesses.
- Power energy generated by the renewable energy system that produces energy from wind, solar, biomass sources.
- The most direct and inexpensive route to reduce wasted energy on the form businesses or community is to have energy audits conducted.

#### **What has been done**

- Energy audits
- Feasible studies
- Workshops on REAP
- Promotion renewable energy system
- USDA (Energy proposals)

#### **Results**

-3 Energy audit conducted

#### 4. Associated Knowledge Areas

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

#### Outcome #8

##### 1. Outcome Measures

The number of disadvantaged farmers who conducted feasibility studies

##### 2. Associated Institution Types

- 1890 Extension
- 1890 Research

##### 3a. Outcome Type:

Change in Condition Outcome Measure

##### 3b. Quantitative Outcome

Year	Actual
2015	5

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

###### **Issue (Who cares and Why)**

Agricultural producers and small rural Businesses.

US is the largest single consumer of energy. The average farm small businesses communities spend about \$2000/year on energy.

Agricultural producers, small businesses and rural communities can save from the use of oil and gas sources to generate electricity for farms and small businesses.

Power energy generated by the renewable energy system that produces energy from wind, solar, biomass sources.

The most direct and inexpensive route to reduce wasted energy on the farm businesses or community is to have energy audits conducted.

###### **What has been done**

Several program activities such as educational workshops and one-on-one meeting with farmers took place to better educate and communicate the various governmental, state and county programs that can be utilized once a farm energy audit has been completed. The one-on-one meetings explain to farmers how they can improve the small farmers overall energy efficiency,

what types of renewable energy systems can be implemented on their farms and save money while also benefitting the environment and reducing greenhouse gas emissions.

**Results**

5 disadvantaged farmers how they can improve the small farmers overall energy efficiency, what types of renewable energy systems can be implemented on their farms and save money while also benefitting the environment and reducing greenhouse gas emissions.

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
601	Economics of Agricultural Production and Farm Management
605	Natural Resource and Environmental Economics
607	Consumer 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
- Competing Programmatic Challenges

**Brief Explanation**

- \*Auditors not able to pay the 25% of the Energy audit cost.
- \*USDA required the grant to be used only for farm energy audits.

**V(I). Planned Program (Evaluation Studies)**

**Evaluation Results**

Several program activities such as educational workshops and one-on -one meeting with farmers took place to better educate and communicate the various governmental , state and county programs that can be utilized once a farm energy audit has been completed. There was a total of three farm energy audits completed. Site evaluations to verify if there farms would qualify for various irrigation systems, renewable energy technology systems through a grant program being offered were conducted. The one-on-one meetings explain to farmers how they can improve the small farmers overall energy efficiency, what types of renewable energy systems can be implemented on their farms and save money while also benefitting the environment and reducing greenhouse gas emissions.

Energy Efficiency Audits in the Black Belt -Five SS cultivars (K.N. Morris, Dale, M8IE, Della and Sugar Drip), three SC cultivars (TU White, TU Blue and TU Green) and two SP cultivars (J6/66 and TU Purple), singly or as mixed feedstocks, were analyzed for Brix%, dry matter, total sugars and ethanol concentration.

BIO Energy in the Black Belt- The fermentation procedure utilizing Saccharomyces

*cerevisiae* was similar for all species, except that SP samples were hydrolyzed. Continuous ethanol production using sweet sorghum (SS) and (sugar cane) SC at pilot scale was feasible.

## Key Items of Evaluation

**Energy Efficiency Audits in the Black Belt** -Several program activities such as educational workshops and one-on-one meeting with farmers took place to better educate and communicate the various governmental, state and county programs that can be utilized once a farm energy audit has been completed. There was a total of three farm energy audits completed. Site evaluations to verify if there farms would qualify for various irrigation systems, renewable energy technology systems through a grant program being offered were conducted. The one-on-one meetings explain to farmers how they can improve the small farmers overall energy efficiency, what types of renewable energy systems can be implemented on their farms and save money while also benefitting the environment and reducing greenhouse gas emissions.

Energy Efficiency Audits in the Black Belt -Five SS cultivars (K.N. Morris, Dale, M8IE, Della and Sugar Drip), three SC cultivars (TU White, TU Blue and TU Green) and two SP cultivars (J6/66 and TU Purple), singly or as mixed feedstocks, were analyzed for Brix%, dry matter, total sugars and ethanol concentration.

**BIO Energy in the Black Belt**- The fermentation procedure utilizing *Saccharomyces cerevisiae* was similar for all species, except that SP samples were hydrolyzed. Continuous ethanol production using sweet sorghum (SS) and (sugar cane) SC at pilot scale was feasible.



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

**Program # 6**

**1. Name of the Planned Program**

Community 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
601	Economics of Agricultural Production and Farm Management	0%	20%	0%	0%
605	Natural Resource and Environmental Economics	15%	10%	0%	20%
608	Community Resource Planning and Development	70%	50%	0%	60%
803	Sociological and Technological Change Affecting Individuals, Families, and Communities	10%	10%	0%	15%
805	Community Institutions, Health, and Social Services	5%	10%	0%	5%
	<b>Total</b>	100%	100%	0%	100%

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

1. Actual amount of FTE/SYs expended this Program

**Auburn University**

Year: 2015	Extension		Research	
	1862	1890	1862	1890
<b>Plan</b>	62.9	10.8	0.0	0.0
<b>Actual Paid</b>	30.2	0.0	0.0	0.0
<b>Actual Volunteer</b>	0.0	0.0	0.0	0.0

**Alabama A&M University**

Year: 2015	Extension		Research	
	1862	1890	1862	1890
<b>Plan</b>	62.9	10.8	0.0	0.0
<b>Actual Paid</b>	0.0	3.5	0.0	1.0
<b>Actual Volunteer</b>	0.0	0.0	0.0	0.0

**Tuskegee University**

Year: 2015	Extension		Research	
	1862	1890	1862	1890
<b>Plan</b>	62.9	10.8	0.0	0.0
<b>Actual Paid</b>	0.0	3.1	0.0	0.0
<b>Actual Volunteer</b>	0.0	0.0	0.0	0.0

**2. Institution Name:** Auburn University

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

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
419390	0	0	0
<b>1862 Matching</b>	<b>1890 Matching</b>	<b>1862 Matching</b>	<b>1890 Matching</b>
491658	0	0	0
<b>1862 All Other</b>	<b>1890 All Other</b>	<b>1862 All Other</b>	<b>1890 All Other</b>
2000202	0	0	0

**2. Institution Name:** Alabama A&M University

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

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
0	260526	0	220063
<b>1862 Matching</b>	<b>1890 Matching</b>	<b>1862 Matching</b>	<b>1890 Matching</b>
0	260526	0	220063
<b>1862 All Other</b>	<b>1890 All Other</b>	<b>1862 All Other</b>	<b>1890 All Other</b>
0	373033	0	0

**2. Institution Name:** Tuskegee University

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

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
0	245226	0	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
0	168171	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

**Entrepreneurship and Small Business Start-ups and Education-** In the monthly series of 11 workshops provided, over 152 participants were in attendance and actively engaged. The project provided several workshops and training sessions on topics relating to Entrepreneurship and the skills, resources, and best practices deemed important to success. The workshops covered varied business topics including Business Structures, Licensing, Business Taxation, Liability & Insurance, Employees, Bookkeeping/Accounting, Marketing, Profitability, and Business Assessment.

**Community Development-** The primary activities in this area are individualized community, county and regional community development programs.

**Volunteer Leadership Development in the Black Belt-** The value-added leadership project used interactive workshop format to engage 180 community residents, including local and emerging leaders. This project included workshops for county leadership series, a volunteer summit, and follow-up workshop on leadership for economic development.

**Career Countdown-**This program broadly aims to upgrade and uplift the state's urban and nontraditional audiences economic capacity by engaging them in activities/training that: (a) simulates economic deterioration; (b) educates them on the causes of economic deterioration, (c) provides direction and training on career planning, and (d) provides direction and training on education planning

**Voluntary Income Tax Assistance (VITA)-**Two hundred and twenty low-income taxpayers and the elderly from Macon, Dallas, Barbour and other neighboring Counties participated in personal finance management and education monthly workshop series and/or received the voluntary income tax assistance (VITA) and services

### 2. Brief description of the target audience

**Entrepreneurship and Small Business Start-ups and Education-** The target audience included individuals who aspired to become entrepreneurs as well as those individuals who had initiated some form of business activities and were in the early stages of development. Target audience was the individuals residing in the rural Alabama Black Belt where limited small business development had occurred, particularly in the African American community. Many within the target audience were from areas of high unemployment and very limited few job opportunities

**Community Development -**The primary target audiences are current and future community/business leaders, decision makers and local and state governmental officials in all communities across the state.

**Volunteer Leadership in the Black Belt-** One hundred and eighty (180) gained knowledge in leadership, volunteerism, and community development. It is anticipated that 75% or 135 of these participants will

utilize the information acquired to move their communities forward. Seven (7) specifically, indicated using information in their community.

**Career Countdown-** The primary target audiences are current and future community leaders, decision makers, and local and state governmental officials and youth in communities across the state.

**VITA-** Low-income taxpayers and the elderly from Macon, Dallas, Barbour and other neighboring Counties

**AU Leadership-** The primary target audiences are current and future community/business leaders, decision makers and local and state governmental officials in all communities across the state.

### 3. How was eXtension used?

eXtension was used to identify webinars/online videos that would benefit the members of the Community Development Priority Program Team. Each week, community development webinars were highlighted and disseminated to each team member.

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

##### 1. Standard output measures

2015	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
<b>Actual</b>	23099	521079	22644	25

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

###### Patent Applications Submitted

Year: 2015

Actual: 0

###### Patents listed

##### 3. Publications (Standard General Output Measure)

###### Number of Peer Reviewed Publications

2015	Extension	Research	Total
<b>Actual</b>	1	20	21

#### V(F). State Defined Outputs

##### Output Target

##### Output #1

###### Output Measure

- This program area will include numerous output activities and methods as part of the Extension Team Projects (ETPs) which are described/explained in Section V(F). The success of many of

these outcomes will be formally evaluated/measured by using individual activity evaluation forms designed specifically for each activity, the success of other activities and projects will be measured by the level of participation in the activity.

Not reporting on this Output for this Annual Report

**Output #2**

**Output Measure**

- 1. Study circles and/or deliberative forums focused on education and workforce development organized and conducted. 2. Alabama 4-H and youth development day camps, after-school programs, in-school enrichment groups conducted and partnerships created with other youth serving organizations. 3. Employment simulations, career awareness, skills assessment, and career planning conducted throughout urban and rural Alabama. 4. Regional Workforce Development Boards conducted and partnerships created.

Not reporting on this Output for this Annual Report

**Output #3**

**Output Measure**

- Participants will be trained in leadership skills development, business planning and management, and how to access loans, employment, and other resources.

Not reporting on this Output for this Annual Report

**Output #4**

**Output Measure**

- Number of career exploration and education planning workshops conducted

<b>Year</b>	<b>Actual</b>
2015	52

**Output #5**

**Output Measure**

- Number of employment simulations skills assessment conducted

<b>Year</b>	<b>Actual</b>
2015	3745

**Output #6**

**Output Measure**

- Number of participants in the Voluntary Income Tax Assistance (VITA) program

<b>Year</b>	<b>Actual</b>
2015	136

**Output #7**

**Output Measure**

- Number of VITA workshops and/or trainings and conferences on personal finance management

<b>Year</b>	<b>Actual</b>
2015	17

**Output #8**

**Output Measure**

- Number of Black Belt residents in workshops and/or trainings on personal finance management

<b>Year</b>	<b>Actual</b>
2015	86

**Output #9**

**Output Measure**

- Number of VITA one-on-one follow-up sessions

<b>Year</b>	<b>Actual</b>
2015	41

**Output #10**

**Output Measure**

- Number of VITA Extension e-bulletins and fact sheets

<b>Year</b>	<b>Actual</b>
2015	3

**Output #11**

**Output Measure**

- Number of individuals enrolled in economic development certification program

<b>Year</b>	<b>Actual</b>
2015	47

**Output #12**

**Output Measure**

- Number of Entrepreneurship training modules developed

<b>Year</b>	<b>Actual</b>
2015	7

**Output #13**

**Output Measure**

- Number of Entrepreneurship workshops, conferences, seminars conducted

<b>Year</b>	<b>Actual</b>
2015	4

**Output #14**

**Output Measure**

- The number of individuals participating in presentation and workshops on entrepreneurship

<b>Year</b>	<b>Actual</b>
2015	3873

**Output #15**

**Output Measure**

- Number of Black Belt residents/individuals trained in business management

<b>Year</b>	<b>Actual</b>
2015	12

**Output #16**

**Output Measure**

- Number of Entrepreneurship and Small Business Start-ups and Education sessions conducted on how to access loans, employment, managing credit, and other resources

<b>Year</b>	<b>Actual</b>
2015	4

**Output #17**

**Output Measure**

- Number of individuals enrolled in Entrepreneurship and Small Business Start-ups and Education training programs

<b>Year</b>	<b>Actual</b>
2015	61

**V(G). State Defined Outcomes**

**V. State Defined Outcomes Table of Content**

O. No.	OUTCOME NAME
1	Outcomes from this program area include: a) Number of community and economic development projects conducted, b) Community and economic development training resources developed, c) Number of community and economic development programs conducted, and d) number of educational grant projects funded.
2	Success stories for this program activity will best the work and demonstrates the impacts of work in this area. These success stories contain the following elements: a) Why - Explain the reason the program was done, or the situation or problem that the program addressed; b) What - Specifically what was done and how it was done; c) When - If this was a one-time event, the date it occurred. If it is was a series of events, or an on-going program, when it began; d) Where - Specific location-- the county or counties involved; e) Who and how many - The who includes both who did the program and who were the clients of the program, as well as how many people were served; f) So what - This is the part that gives the real meaning to success. The basic question to be answered in this part is what difference did this program make. The difference may be measured in terms of dollars, or in changes in habits, lifestyles or attitudes. Whenever possible use numbers to show the effect of the program. If it is not possible to use numbers, provide a qualitative measurement like client comments or another type of testimonial about the program. Since the Economic and Community Development program area is very broad in scope and contains multiple Extension Team Projects which have different outcomes measures, the impacts for this program area are best measured in the number and quality of the success stories generated by the individuals who work on these projects. Therefore, one very significant outcome measure is the number of success stories generated.
3	1. Increased knowledge among citizens and stakeholders of the social and economic benefits and practical applications of broadband technology. 2. New opportunities to connect business and education stakeholders (Workforce Region 8). 3. Increased knowledge among young people about the negative impacts of early exit from high school, the rewards available through technical careers, and entrepreneurship opportunities. 4. Increased Extension capacity for meeting facilitation, public deliberation, and strategic planning.
4	Youth will: Learn how to take control of their future and make healthy choices. Make decisions based on accurate information Learn importance of youth/adult partnerships Understand consequences of risk behavior Make a difference Do the right thing
5	Participants will: Complete a career plan. Complete a skills assessment. Complete an education plan.
6	Total number of people completing financial management education programs who actually adopted one or more recommended practices to decrease consumer credit debt, or increase investing and savings, and plan for retirement within six months after completing one or more of these programs.
7	These success stories will be used and will contain the following elements: Why: Explain the reason the program was done, or the situation or problem that the program addressed What: Specifically what was done and how it was done. When: If this was a one-time event, the date it occurred. If it is was a series of events, or an on-going program, when it began. Where: Specific location-- the county or counties involved. Who and how many: The "who" includes both who did the program and who were the clients of the program, as well as how many people were served. So what: This is the part that gives the real meaning to "success". The basic question to be answered in this part is "what difference did this program make". The difference may be measured in terms of dollars, or in changes in habits, lifestyles or



	attitudes. Whenever possible use numbers to show the effect of the program. In addition to quantitative data, qualitative measurement like client comments or another type of testimonial about the program may be included. The impacts for this program area are measured by use of pre, post and delayed post assessments. Additionally, the number and quality of the success stories generated by the individuals who work on these projects are also used.
8	Acquisition of jobs skills and actual employment Reduction in personal credit challenges Development business plans Access to personal and business loans
9	The number of program participants who complete a career and or education plan
10	The number of program participants who demonstrate an increased knowledge on tools and resources for small business creation and development
11	The number of participants who used information provided to engage entrepreneurship.
12	Number of Entrepreneurship and Small Business Start-ups and Education4 program participants who start a business
13	Number of Entrepreneurship and Small Business Start-ups and Education program participants who demonstrate an increased knowledge on how to engage in entrepreneurship
14	Number of Entrepreneurship and Small Business Start-ups and Education program participants who obtain personal and or business loans to start or expand their business
15	The number of program participants who increased knowledge in financial literacy
16	The economic impact of VITA- dollar amount refunded to disadvantaged families
17	Number of program participants who demonstrated debt reduction, and/or building wealth (home ownership)
18	Economic impact of VITA - dollar amount saved by disadvantaged families
19	number of program participants who demonstrate an increased knowledge in the strategies and tactics of community economic development
20	number of program participants who demonstrate an increased knowledge in the strategies and tactics of community economic development
21	The number of people who are active in the community serving on local boards and leading initiatives
22	The number of VEC participants who demonstrate an increased knowledge on tools and resources for small business creation and development
23	The number of entrepreneurs who started businesses using VEC support
24	The number of small businesses that expanded operations
25	The number of program participants who demonstrate and increased knowledge on checking, savings, and or budgeting

26	Number of individuals who study habits and or grades improve
----	--

**Outcome #1**

**1. Outcome Measures**

Outcomes from this program area include: a) Number of community and economic development projects conducted, b) Community and economic development training resources developed, c) Number of community and economic development programs conducted, and d) number of educational grant projects funded.

Not Reporting on this Outcome Measure

**Outcome #2**

**1. Outcome Measures**

Success stories for this program activity will best the work and demonstrates the impacts of work in this area. These success stories contain the following elements: a) Why - Explain the reason the program was done, or the situation or problem that the program addressed; b) What - Specifically what was done and how it was done; c) When - If this was a one-time event, the date it occurred. If it is was a series of events, or an on-going program, when it began; d) Where - Specific location-- the county or counties involved; e) Who and how many - The who includes both who did the program and who were the clients of the program, as well as how many people were served; f) So what - This is the part that gives the real meaning to success. The basic question to be answered in this part is what difference did this program make. The difference may be measured in terms of dollars, or in changes in habits, lifestyles or attitudes. Whenever possible use numbers to show the effect of the program. If it is not possible to use numbers, provide a qualitative measurement like client comments or another type of testimonial about the program. Since the Economic and Community Development program area is very broad in scope and contains multiple Extension Team Projects which have different outcomes measures, the impacts for this program area are best measured in the number and quality of the success stories generated by the individuals who work on these projects. Therefore, one very significant outcome measure is the number of success stories generated.

Not Reporting on this Outcome Measure

**Outcome #3**

**1. Outcome Measures**

1. Increased knowledge among citizens and stakeholders of the social and economic benefits and practical applications of broadband technology. 2. New opportunities to connect business and education stakeholders (Workforce Region 8). 3. Increased knowledge among young people about the negative impacts of early exit from high school, the rewards available through technical careers, and entrepreneurship opportunities. 4. Increased Extension capacity for meeting facilitation, public deliberation, and strategic planning.

Not Reporting on this Outcome Measure

#### **Outcome #4**

##### **1. Outcome Measures**

Youth will: Learn how to take control of their future and make healthy choices. Make decisions based on accurate information Learn importance of youth/adult partnerships Understand consequences of risk behavior Make a difference Do the right thing

Not Reporting on this Outcome Measure

#### **Outcome #5**

##### **1. Outcome Measures**

Participants will: Complete a career plan. Complete a skills assessment. Complete an education plan.

Not Reporting on this Outcome Measure

#### **Outcome #6**

##### **1. Outcome Measures**

Total number of people completing financial management education programs who actually adopted one or more recommended practices to decrease consumer credit debt, or increase investing and savings, and plan for retirement within six months after completing one or more of these programs.

Not Reporting on this Outcome Measure

#### **Outcome #7**

##### **1. Outcome Measures**

These success stories will be used and will contain the following elements: Why: Explain the reason the program was done, or the situation or problem that the program addressed What: Specifically what was done and how it was done. When: If this was a one-time event, the date it occurred. If it is was a series of events, or an on-going program, when it began. Where: Specific location-- the county or counties involved. Who and how many: The "who" includes both who did the program and who were the clients of the program, as well as how many people were served. So what: This is the part that gives the real meaning to "success". The basic question to be answered in this part is "what difference did this program make". The difference may be measured in terms of dollars, or in changes in habits, lifestyles or attitudes. Whenever possible use numbers to show the effect of the program. In addition to quantitative data, qualitative measurement like client comments or another type of testimonial about the program may be included. The impacts for this program area are measured by use of pre, post and delayed post assessments. Additionally, the number and quality of the success stories generated by the individuals who work on these projects are also used.

Not Reporting on this Outcome Measure

**Outcome #8**

**1. Outcome Measures**

Acquisition of jobs skills and actual employment  
Reduction in personal credit challenges  
Development business plans  
Access to personal and business loans  
  
Not Reporting on this Outcome Measure

**Outcome #9**

**1. Outcome Measures**

The number of program participants who complete a career and or education plan

**2. Associated Institution Types**

- 1890 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2015	3134

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

**Issue (Who cares and Why)**

Education Planning and Career Exploration: Improve workforce awareness, knowledge, and skills throughout Alabama, with particular emphasis on post-secondary education, STEM, career education and planning, and technology applications that support workforce development.

**What has been done**

During each of the programs individuals were lead through a career exploration activity that required them to select a desired career. Each individual was also lead through an education planning activity based on the selected career.

**Results**

Of the 3745 program participants 3134 of them successfully completed an education and career plan.

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
608	Community Resource Planning and Development

## **Outcome #10**

### **1. Outcome Measures**

The number of program participants who demonstrate an increased knowledge on tools and resources for small business creation and development

### **2. Associated Institution Types**

- 1890 Extension

### **3a. Outcome Type:**

Change in Knowledge Outcome Measure

### **3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2015	73

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

#### **Issue (Who cares and Why)**

Entrepreneurship is a key driver of growth for the U.S. economy and the state of Alabama. Individuals of all education levels, age ranges, and backgrounds turn to entrepreneurship to build wealth and more actively engage in the economy. Through providing goods and services individuals participate in the production side of the economy and earn money to substitute or supplement existing streams of income. Micro-Business is the entry way into business and provides individuals with the opportunity to pilot concepts, test markets, and build a client base while at the same time limiting risk. As wage growth has stagnated and real unemployment has hovered at a high rate individuals have turned to micro-businesses to brighten their economic futures.

#### **What has been done**

The virtual entrepreneurship center recruited, enrolled and trained individuals through its certificate program on various topics of importance to small business. Each program participant completed training modules and examinations on small business tools and resources. These courses included: basics of entrepreneurship, corporate structures, business licenses and permits, business management, and marketing basics.

#### **Results**

Of the 84 program participants 86% or 73 of them demonstrated and increased knowledge on tools and resources for small business creation and development

### **4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
608	Community Resource Planning and Development

## **Outcome #11**

### **1. Outcome Measures**

The number of participants who used information provided to engage entrepreneurship.

### **2. Associated Institution Types**

- 1890 Extension

### **3a. Outcome Type:**

Change in Action Outcome Measure

### **3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2015	33

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

#### **Issue (Who cares and Why)**

Entrepreneurship is a key driver of growth for the U.S. economy and the state of Alabama. Individuals of all education levels, age ranges, and backgrounds turn to entrepreneurship to build wealth and more actively engage in the economy. Through providing goods and services individuals participate in the production side of the economy and earn money to substitute or supplement existing streams of income. Micro-Business is the entry way into business and provides individuals with the opportunity to pilot concepts, test markets, and build a client base while at the same time limiting risk. As wage growth has stagnated and real unemployment has hovered at a high rate individuals have turned to micro-businesses to brighten their economic futures.

#### **What has been done**

The virtual entrepreneurship center recruited, enrolled and trained individuals through its certificate program on various topics of importance to small business. Each program participant completed training modules and examinations on small business tools and resources. These courses included: basics of entrepreneurship, corporate structures, business licenses and permits, business management, and marketing basics.

#### **Results**

Of the 84 program participants 33 reported that they had used information provided to engage in entrepreneurship.

### **4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
608	Community Resource Planning and Development

## **Outcome #12**

### **1. Outcome Measures**

Number of Entrepreneurship and Small Business Start-ups and Education4 program participants who start a business

### **2. Associated Institution Types**

- 1890 Extension
- 1890 Research

### **3a. Outcome Type:**

Change in Condition Outcome Measure

### **3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2015	6

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

#### **Issue (Who cares and Why)**

Economic development in smaller and particularly rural communities most often occurs as a result of entrepreneurs and the small businesses they develop. In order for an Entrepreneur to organize their business efforts, a business plan should be developed in order to assess the challenge, evaluate risks and opportunities, determine the course of actions necessary to launch the business. The entrepreneur cares because the business plan gives him/her an outline of the business and course to follow. Potential investors and financial institutions care because they want a clear picture of the business and the possibilities for success. Communities care because of the potential jobs created and developed.

#### **What has been done**

Several workshops and training sessions were provided on topics relating to Entrepreneurship and the skills, resources, and best practices deemed important to success. In addition to workshops that provided information and opportunity for questions and answers, one-on-one counseling sessions were conducted to personalize the technical assistance to the individual entrepreneurs and new/recent start-up businesses to strengthen their business operations and develop business plans for short- term and long-term planning to focus on business sustainability. Six businesses were started or expanded.

#### **Results**

Six businesses were started or expanded.

### **4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
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**Outcome #13**

**1. Outcome Measures**

Number of Entrepreneurship and Small Business Start-ups and Education program participants who demonstrate an increased knowledge on how to engage in entrepreneurship

**2. Associated Institution Types**

- 1890 Extension
- 1890 Research

**3a. Outcome Type:**

Change in Knowledge Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2015	80

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

**Issue (Who cares and Why)**

-Communities care because increased knowledge can enable more budding entrepreneurs to become successful businesspersons. Economic development in smaller and particularly rural communities most often occurs as a result of entrepreneurs and the small businesses they develop. The entrepreneur cares because the business plan gives him/her an outline of the business and course to follow. Potential investors and financial institutions care because they want a clear picture of the business and the possibilities for success. Communities also care because of the potential number of jobs created and developed.

**What has been done**

Several workshops and training sessions were provided on topics relating to Entrepreneurship and the skills, resources, and best practices deemed important to success. In addition to workshops that provided information and opportunity for questions and answers, one-on-one counseling sessions were conducted to personalize the technical assistance to the individual entrepreneurs and new/recent start-up businesses to strengthen their business operations and develop business plans for short- term and long-term planning to focus on business sustainability.

**Results**

Of the 152 attendees to the workshops, over 80% or 121 individuals acknowledged a gain in knowledge on How to Engage Entrepreneurship and expressed interest in developing business plans to start a business.

**4. Associated Knowledge Areas**



**KA Code**    **Knowledge Area**  
608            Community Resource Planning and Development

**Outcome #14**

**1. Outcome Measures**

Number of Entrepreneurship and Small Business Start-ups and Education program participants who obtain personal and or business loans to start or expand their business

**2. Associated Institution Types**

- 1890 Extension
- 1890 Research

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2015	2

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

**Issue (Who cares and Why)**

Economic development in smaller and particularly rural communities most often occurs as a result of entrepreneurs and the small businesses they develop. In order for an Entrepreneur to organize their business efforts, a business plan should be developed in order to assess the challenge, evaluate risks and opportunities, determine the course of actions necessary to launch the business. The entrepreneur cares because the business loan(s) gives him/her an outline of the business and course to follow. Potential investors and financial institutions care because they want a clear picture of the business and the possibilities for success. Communities care because of the potential jobs created and developed.

**What has been done**

Several workshops and training sessions were provided on topics relating to Entrepreneurship and the skills, resources, and best practices deemed important to success. In addition to workshops that provided information and opportunity for questions and answers, one-on-one counseling sessions were conducted to personalize the technical assistance to the individual entrepreneurs and new/recent start-up businesses to strengthen their business operations and develop business plans for short- term and long-term planning to focus on business sustainability. Six businesses were started or expanded.

**Results**

Two of four businesses that applied received loans to start or expand/strengthen their business operations.

#### 4. Associated Knowledge Areas

KA Code	Knowledge Area
608	Community Resource Planning and Development

#### Outcome #15

##### 1. Outcome Measures

The number of program participants who increased knowledge in financial literacy

##### 2. Associated Institution Types

- 1890 Extension
- 1890 Research

##### 3a. Outcome Type:

Change in Knowledge Outcome Measure

##### 3b. Quantitative Outcome

Year	Actual
2015	0

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

###### **Issue (Who cares and Why)**

Many low-income households are eligible for the earned income tax credit (EITC) and other tax credits but do not apply for the annual refunds because they are unaware of their existence. In Alabama, more than 490,000 families claim an estimated \$1 billion through the federal EITC annually. However, with more than 75% of EITC recipients in Alabama paying a commercial preparer to complete their taxes and due to the lack of basic financial management skills, Alabama families lose more than \$78 million annually to tax preparation and refund anticipation loan costs. And yet most Americans would love to learn more about money matters and secure resources for home repairs or ownership.

###### **What has been done**

More than two hundred and thirty two (232 contacts) low-income taxpayers and the elderly from Macon, Dallas, Barbour and Greene Counties participated in personal finance management and education workshop series and/or accepted the voluntary income tax assistance (VITA) and services. Topics covered included tax planning, budgeting and home ownership; investment and home mortgage; gaining financial wellness and credit reporting; investment strategies; social security benefits; earning power versus paychecks; insurance; record keeping; etc.

###### **Results**

-Eighty one (81) of the 84 participants in the workshop series on personal finance management reported "learning a lot" on average at the end of each session.

-It is anticipated that at least 75% of 84 contacts (i.e., 63 contacts) will utilize information (knowledge and skills) acquired through participation in the workshops, and consequently, manage their finances better.

#### 4. Associated Knowledge Areas

KA Code	Knowledge Area
608	Community Resource Planning and Development
805	Community Institutions, Health, and Social Services

#### Outcome #16

##### 1. Outcome Measures

The economic impact of VITA- dollar amount refunded to disadvantaged families

##### 2. Associated Institution Types

- 1890 Extension
- 1890 Research

##### 3a. Outcome Type:

Change in Condition Outcome Measure

##### 3b. Quantitative Outcome

Year	Actual
2015	148868

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

###### **Issue (Who cares and Why)**

Many low-income households are eligible for the earned income tax credit (EITC) and other tax credits but do not apply for the annual refunds because they are unaware of their existence. In Alabama, more than 490,000 families claim an estimated \$1 billion through the federal EITC annually. However, with more than 75% of EITC recipients in Alabama paying a commercial preparer to complete their taxes and due to the lack of basic financial management skills, Alabama families lose more than \$78 million annually to tax preparation and refund anticipation loan costs. And yet most Americans would love to learn more about money matters and secure resources for home repairs or ownership.

###### **What has been done**

More than two hundred and thirty twenty (232 contacts) low-income taxpayers and the elderly from Macon, Dallas, Barbour and Greene Counties participated in personal finance management and education workshop series and/or accepted the voluntary income tax assistance (VITA) and services. Topics covered included tax planning, budgeting and home ownership; investment and

home mortgage; gaining financial wellness and credit reporting; investment strategies; social security benefits; earning power versus paychecks; insurance; record keeping; etc.

**Results**

- Out of 136 taxes filed, the total refund was \$148,868.
- The total Earned Income Tax Credit (EITC) was \$71,307.

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
608	Community Resource Planning and Development
805	Community Institutions, Health, and Social Services

**Outcome #17**

**1. Outcome Measures**

Number of program participants who demonstrated debt reduction, and/or building wealth (home ownership)

**2. Associated Institution Types**

- 1890 Extension
- 1890 Research

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2015	12

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

**Issue (Who cares and Why)**

Many low-income households are eligible for the earned income tax credit (EITC) and other tax credits but do not apply for the annual refunds because they are unaware of their existence. In Alabama, more than 490,000 families claim an estimated \$1 billion through the federal EITC annually. However, with more than 75% of EITC recipients in Alabama paying a commercial preparer to complete their taxes and due to the lack of basic financial management skills, Alabama families lose more than \$78 million annually to tax preparation and refund anticipation loan costs. And yet most Americans would love to learn more about money matters and secure resources for home repairs or ownership.

**What has been done**

More than two hundred and thirty twenty (232 contacts) low-income taxpayers and the elderly

from Macon, Dallas, Barbour and Greene Counties participated in personal finance management and education workshop series and/or accepted the voluntary income tax assistance (VITA) and services. Topics covered included tax planning, budgeting and home ownership; investment and home mortgage; gaining financial wellness and credit reporting; investment strategies; social security benefits; earning power versus paychecks; insurance; record keeping; etc.

**Results**

12 families were able to obtain loans to buy or improve their homes.

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
608	Community Resource Planning and Development
805	Community Institutions, Health, and Social Services

**Outcome #18**

**1. Outcome Measures**

Economic impact of VITA - dollar amount saved by disadvantaged families

**2. Associated Institution Types**

- 1890 Extension
- 1890 Research

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

Year	Actual
2015	67000

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

**Issue (Who cares and Why)**

Many low-income households are eligible for the earned income tax credit (EITC) and other tax credits but do not apply for the annual refunds because they are unaware of their existence. In Alabama, more than 490,000 families claim an estimated \$1 billion through the federal EITC annually. However, with more than 75% of EITC recipients in Alabama paying a commercial preparer to complete their taxes and due to the lack of basic financial management skills, Alabama families lose more than \$78 million annually to tax preparation and refund anticipation loan costs. And yet most Americans would love to learn more about money matters and secure resources for home repairs or ownership.

**What has been done**

More than two hundred and thirty twenty (232 contacts) low-income taxpayers and the elderly from Macon, Dallas, Barbour and Greene Counties participated in personal finance management and education workshop series and/or accepted the voluntary income tax assistance (VITA) and services. Topics covered included tax planning, budgeting and home ownership; investment and home mortgage; gaining financial wellness and credit reporting; investment strategies; social security benefits; earning power versus paychecks; insurance; record keeping; etc.

**Results**

Participants have saved an average of about \$100 each year adding up to more than \$67,000 in tax preparation fees

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
608	Community Resource Planning and Development
805	Community Institutions, Health, and Social Services

**Outcome #19**

**1. Outcome Measures**

number of program participants who demonstrate an increased knowledge in the strategies and tactics of community economic development

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Knowledge Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2015	47

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

**Issue (Who cares and Why)**

Active engagement and knowledge of current community and economic development best practices are essential for developing a vibrant community of citizens.

**What has been done**

The Intensive Economic Development Training Course was created to enhance the knowledge and skill development of local economic developers and practitioners. For more than 25 years, this course has impacted the development of communities throughout Alabama.

**Results**

All 47 participants were involved in the two-week intensive training session. As a result, each individual was required to complete a test, measuring their level of increased knowledge. Specific increases in knowledge of the participants included economic development approaches, incentive strategies, marketing tactics and workforce development issues.

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
608	Community Resource Planning and Development

**Outcome #20**

**1. Outcome Measures**

number of program participants who demonstrate an increased knowledge in the strategies and tactics of community economic development

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Knowledge Outcome Measure

**3b. Quantitative Outcome**

Year	Actual
2015	1500

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

**Issue (Who cares and Why)**

Active engagement and knowledge of current leaders, utilizing best practices/ strategies are essential for developing effective and successful communities.

**What has been done**

For more than 30 years, Extension has conducted leadership development workshops/seminars to benefit the citizens of Alabama. Each year, Extension conducts 2 statewide conferences and supports other local and regional workshops throughout the state focused on leadership development.

**Results**

Topic areas noted for increased knowledge included communication (public speaking), planning, decision making and civic engagement strategies. Twenty-five percent of the participants increased their knowledge pertaining to communicating effectively, 25 percent for planning, 25 percent for civic engagement strategies and 25 percent for other areas (leadership qualities, ethics, networking, etc.).

#### 4. Associated Knowledge Areas

KA Code	Knowledge Area
608	Community Resource Planning and Development

#### Outcome #21

##### 1. Outcome Measures

The number of people who are active in the community serving on local boards and leading initiatives

##### 2. Associated Institution Types

- 1862 Extension

##### 3a. Outcome Type:

Change in Action Outcome Measure

##### 3b. Quantitative Outcome

Year	Actual
2015	75

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

###### Issue (Who cares and Why)

Active engagement and knowledge of current leaders, utilizing best practices/ strategies are essential for developing effective and successful communities.

###### What has been done

For more than 30 years, Extension has conducted leadership development workshops/seminars to benefit the citizens of Alabama. Each year, Extension conducts 2 statewide conferences and supports other local and regional workshops throughout the state focused on leadership development.

###### Results

Via follow-up phone calls and observation, 75 individuals that have participated in ACES programs (leadership development) reported they changed at least one activity/action related to leadership development. All 75 individuals (100 percent) reported being more active in the community serving on local boards and leading initiatives.

#### 4. Associated Knowledge Areas

KA Code	Knowledge Area
608	Community Resource Planning and Development



## **Outcome #22**

### **1. Outcome Measures**

The number of VEC participants who demonstrate an increased knowledge on tools and resources for small business creation and development

### **2. Associated Institution Types**

- 1862 Extension
- 1890 Extension

### **3a. Outcome Type:**

Change in Knowledge Outcome Measure

### **3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2015	73

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

#### **Issue (Who cares and Why)**

Entrepreneurship is a key driver of growth for the U.S. economy and the state of Alabama. Individuals of all education levels, age ranges, and backgrounds turn to entrepreneurship to build wealth and more actively engage in the economy. Through providing goods and services individuals participate in the production side of the economy and earn money to substitute or supplement existing streams of income. Micro-Business is the entry way into business and provides individuals with the opportunity to pilot concepts, test markets, and build a client base while at the same time limiting risk. As wage growth has stagnated and real unemployment has hovered at a high rate individuals have turned to micro-businesses to brighten their economic futures.

#### **What has been done**

The virtual entrepreneurship center recruited, enrolled and trained individuals through its certificate program on various topics of importance to small business. Each program participant completed training modules and examinations on small business tools and resources. These courses included: basics of entrepreneurship, corporate structures, business licenses and permits, business management, and marketing basics.

#### **Results**

Of the 84 program participants 86% or 73 of them demonstrated and increased knowledge on tools and resources for small business creation and development

### **4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
608	Community Resource Planning and Development

**Outcome #23**

**1. Outcome Measures**

The number of entrepreneurs who started businesses using VEC support

**2. Associated Institution Types**

- 1862 Extension
- 1890 Extension

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

Year	Actual
2015	4

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

**Issue (Who cares and Why)**

Entrepreneurship is a key driver of growth for the U.S. economy and the state of Alabama. Individuals of all education levels, age ranges, and backgrounds turn to entrepreneurship to build wealth and more actively engage in the economy. Through providing goods and services individuals participate in the production side of the economy and earn money to substitute or supplement existing streams of income. Micro-Business is the entry way into business and provides individuals with the opportunity to pilot concepts, test markets, and build a client base while at the same time limiting risk. As wage growth has stagnated and real unemployment has hovered at a high rate individuals have turned to micro-businesses to brighten their economic futures.

**What has been done**

The virtual entrepreneurship center recruited, enrolled and trained individuals through its certificate program on various topics of importance to small business. Each program participant completed training modules and examinations on small business tools and resources. These courses included: basics of entrepreneurship, corporate structures, business licenses and permits, business management, and marketing basics.

**Results**

Through the VEC micro grant program 4 entrepreneurs were provided financial assistance as they launched their businesses. These individuals were provided with training through the certificate program as well as technical assistance with the start up process.

**4. Associated Knowledge Areas**

**KA Code    Knowledge Area**

**Outcome #24**

**1. Outcome Measures**

The number of small businesses that expanded operations

**2. Associated Institution Types**

- 1862 Extension
- 1890 Extension

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2015	3

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

**Issue (Who cares and Why)**

Entrepreneurship is a key driver of growth for the U.S. economy and the state of Alabama. Individuals of all education levels, age ranges, and backgrounds turn to entrepreneurship to build wealth and more actively engage in the economy. Through providing goods and services individuals participate in the production side of the economy and earn money to substitute or supplement existing streams of income. Micro-Business is the entry way into business and provides individuals with the opportunity to pilot concepts, test markets, and build a client base while at the same time limiting risk. As wage growth has stagnated and real unemployment has hovered at a high rate individuals have turned to micro-businesses to brighten their economic futures.

**What has been done**

The virtual entrepreneurship center recruited, enrolled and trained individuals through its certificate program on various topics of importance to small business. Each program participant completed training modules and examinations on small business tools and resources. These courses included: basics of entrepreneurship, corporate structures, business licenses and permits, business management, and marketing basics.

**Results**

During the program year the VEC provided technical and financial assistance to 3 small business that were seeking to expand their operations. These individual through the certificate program were provided training on business expansion as well.

**4. Associated Knowledge Areas**

**KA Code**    **Knowledge Area**  
608            Community Resource Planning and Development

**Outcome #25**

**1. Outcome Measures**

The number of program participants who demonstrate and increased knowledge on checking, savings, and or budgeting

**2. Associated Institution Types**

- 1890 Extension

**3a. Outcome Type:**

Change in Knowledge Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2015	2546

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

**Issue (Who cares and Why)**

Career countdown provides youth throughout the state of Alabama with exercises and training to sharpen their budgeting, check writing and saving skills. Each program participant gets an opportunity to use these skills in a controlled environment but learns tips to increase them. These skills are essential to creating family stability and wealth development. When youth master them at an early age it can help drastically minimize hardships in the future.

**What has been done**

During the program individuals were allowed to select a career. Based upon the career choice they made they were given a salary. As a part of the interactive component of the program the participants moved through several stations making various purchases. Those individuals who budgeted properly as well as used sound money management principles were able to complete the exercise. Both the individuals who were successful in completing the exercise and those who were not received training on budgeting, check writing, and saving.

**Results**

Of the program participants 68% or 2546 demonstrated an increase in knowledge on checking, savings, and or budgeting;

**4. Associated Knowledge Areas**

**KA Code**    **Knowledge Area**  
608            Community Resource Planning and Development

**Outcome #26**

**1. Outcome Measures**

Number of individuals who study habits and or grades improve

**2. Associated Institution Types**

- 1890 Extension

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2015	1385

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

**Issue (Who cares and Why)**

Study habits are uniquely tied to grades as well as to post-secondary education success. The career countdown program is designed to impress upon young people the importance of actively preparing themselves for future education and career opportunities.

**What has been done**

During the program participants are complete a skills and interest inventory. Based on their responses they are introduced to various career clusters. Within their chosen career cluster they are assisted with selecting a career and developing an education plan. The importance of education as well as career planning is highlighted throughout the activities. Participants are provided with data and cases studies that point out the advantages of career planning.

**Results**

Of the program participants 37% or 1385 reported an improvement in study habits and or grades

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
608	Community Resource Planning and 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

Identifying initial capital to start the business is naturally one of the key barriers to starting a new business. However, one of the biggest challenges is for potential entrepreneurs and small business owners to identify and commit the time for training which takes them away from their businesses. The second challenge is to establish consistency in changing the informal family business actions into formal business practices for accountability and sustainability

## V(I). Planned Program (Evaluation Studies)

### Evaluation Results

**Entrepreneurship and Small Business Start-ups and Education-** A significant number of the 152+ attendees, 40% or 61 began some action to initiate formal business practices not previously conducted. Bookkeeping/Accounting practices initiated by at least 16 and business plan development initiated by more than 20. At least 6 participants acknowledged a Change in Action by starting or expanding their business, while 12 participants Change in Action resulted in the development of Business Plans, and 2 entrepreneurial participants acknowledged a Change in Condition when they obtained a loan to strengthen their business.

**Community Development** Specific increases in knowledge of the participants included economic development approaches, incentive strategies, marketing tactics and workforce development issues. Forty of the 47 participants recorded a 10 percent improvement (aforementioned topics/areas) from their pretest to their posttest results.

**Career Countdown** The average study time for program participants increased from 1.5 hours per week to 3.2 hours per week. Before the program only 17% of participants reported that they had an education plan after the program this number increased to 81%. Before the program only 21% reported that they had a career plan after the program this number increased to 76%. After the program was over 3085 students were contacted to see what changes they had made in their life as a result of having participated in career countdown. 47% of program participants reported that they had explored new careers, 23% began to studying for the ACT, 41% started studying harder, 56% improved grades, and 8% applied for postsecondary education institutions.

**AU Leadership** -Increased knowledge pertaining to leadership development and a better understanding of how leaders impact the community. All 75 individuals (100 percent)

reported being more active in the community serving on local boards and leading initiatives. Fifty out of 75 stated they have adopted a new communication style.

**Volunteer Leadership in the Black Belt-** One hundred and eighty (180) gained knowledge in leadership, volunteerism, and community development. It is anticipated that 75% or 135 of these participants will utilize the information acquired to move their communities forward. Seven (7) specifically, indicated using information in their community.

**VITA** -Eighty one (81) of the 84 participants in the workshop series on personal finance management reported "learning a lot" on average at the end of each session and at least 75% of 84 contacts (i.e., 63 contacts) pledged to utilize information received. For the 136 taxes filed, the total refund was \$148,868 and the total Earned Income Tax Credit (EITC) was \$71,307. Participants saved an average of about \$100 each year adding up to more than \$67,000 in tax preparation fees.

## Key Items of Evaluation

**Entrepreneurship and Small Business Start-ups and Education-**A significant number of the 152+ attendees, 40% or 61 began some action to initiate formal business practices not previously conducted. Bookkeeping/Accounting practices initiated by at least 16 and business plan development initiated by more than 20. At least 6 participants acknowledged a Change in Action by starting or expanding their business, while 12 participants Change in Action resulted in the development of Business Plans, and 2 entrepreneurial participants acknowledged a Change in Condition when they obtained a loan to strengthen their business.

**Career Countdown** The average study time for program participants increased from 1.5 hours per week to 3.2 hours per week. Before the program only 17% of participants reported that they had an education plan after the program this number increased to 81%. Before the program only 21% reported that they had a career plan after the program this number increased to 76%.

After the program was over 3085 students were contacted to see what changes they had made in their life as a result of having participated in career countdown. 47% of program participants reported that they had explored new careers, 23% began to studying for the ACT, 41% started studying harder, 56% improved grades, and 8% applied for postsecondary education institutions.

**Volunteer Leadership** in the Black Belt- One hundred and eighty (180) gained knowledge in leadership, volunteerism, and community development. It is anticipated that 75% or 135 of these participants will utilize the information acquired to move their communities forward. Seven (7) specifically, indicated using information in their community.

**VITA** -Eighty one (81) of the 84 participants in the workshop series on personal finance management reported "learning a lot" on average at the end of each session and at least 75% of 84 contacts (i.e., 63 contacts) pledged to utilize information received. For the 136 taxes filed, the total refund was \$148,868 and the total Earned Income Tax Credit (EITC) was \$71,307. Participants saved an average of about \$100 each year adding up to more than \$67,000 in tax preparation fees.

**Community Development** Specific increases in knowledge of the participants included economic development approaches, incentive strategies, marketing tactics and workforce development issues. Forty of the 47 participants recorded a 10 percent improvement (aforementioned topics/areas) from their pretest to their posttest results.

**AU Leadership**-Increased knowledge pertaining to leadership development and a better understanding of how leaders impact the community. All 75 individuals (100 percent)

reported being more active in the community serving on local boards and leading initiatives. Fifty out of 75 stated they have adopted a new communication style.



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

**Program # 7**

**1. Name of the Planned Program**

Family, Home, 4-H and Youth 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
602	Business Management, Finance, and Taxation	10%	10%	0%	0%
607	Consumer Economics	10%	10%	0%	0%
801	Individual and Family Resource Management	20%	20%	0%	0%
802	Human Development and Family Well-Being	20%	20%	0%	0%
806	Youth Development	40%	40%	0%	0%
	<b>Total</b>	100%	100%	0%	0%

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

1. Actual amount of FTE/SYs expended this Program

**Auburn University**

Year: 2015	Extension		Research	
	1862	1890	1862	1890
<b>Plan</b>	58.5	14.1	0.0	0.0
<b>Actual Paid</b>	146.3	0.0	0.0	0.0
<b>Actual Volunteer</b>	0.0	0.0	0.0	0.0

**Alabama A&M University**

Year: 2015	Extension		Research	
	1862	1890	1862	1890
<b>Plan</b>	58.5	14.1	0.0	0.0
<b>Actual Paid</b>	0.0	9.0	0.0	0.0
<b>Actual Volunteer</b>	0.0	0.0	0.0	0.0

**Tuskegee University**

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Year: 2015	Extension		Research	
	1862	1890	1862	1890
<b>Plan</b>	58.5	14.1	0.0	0.0
<b>Actual Paid</b>	0.0	3.9	0.0	0.0
<b>Actual Volunteer</b>	0.0	0.0	0.0	0.0

**2. Institution Name:** Auburn University

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

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
2237361	0	0	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
2474642	0	0	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
11172727	0	0	0

**2. Institution Name:** Alabama A&M University

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

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
0	671781	0	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
0	671781	0	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
0	1251856	0	0

**2. Institution Name:** Tuskegee University

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

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
0	308511	0	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
0	211570	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

**STEAM** Skills Enhancement consisted of a series of age-appropriate experiential learning activities for K-12 youth in underserved areas of the Alabama Black Belt. **Let's Move with Soccer** consisted of bi-weekly lessons alternated for each site which received a one hour session in soccer training and techniques and a one hour session in healthy eating practices. Participation in high-quality positive youth development 4-H science programs culminating to the **4-H National Youth Science Day (4-H NYSD)** offers youth and adults the opportunity to engage in scientific exploration and work together to build the next generation of our nation's scientists, engineers and mathematicians. **Volunteer Youth Development**-The program requires each registered participant to complete all four (4) on-line modules focusing on (a) the purpose, philosophy and participation in 4-H; **Youth Voice**-To promote healthy living, positive lifestyles and behavioral changes among youth and their families to improve dietary knowledge and behaviors of youth ages 8-18, increasing their adoption of good nutrition information into healthy eating practices balanced by physical activity.

**PREP** is a system-wide career development project implemented by Traditional and Urban agents. **Family Advocacy through Caring Strategies (FACES)** is a curriculum centered around building strong relationships. **SAI**- this program focused on the specific needs of older adults. **Family Child Care Partnership Program ( FCCP)**- 15 mentors worked statewide to deliver one-on-one, individualized educational programming to licensed home-based child care providers. **Relationship Education for Adults**- 131 series of 6-session programs were conducted to raise awareness and provide coping skills for individuals and couples who are married, dating, and/or considering marriage. Every **Alabama 4-H club** needs leaders, and a good way to get leaders is by having youth elect them. At the beginning of the program year 4- H agents, leaders and educators inform the 4-H members about the qualities and duties of good leaders. By setting standards for officers, youth can avoid a popularity contest in the election of officers.

### 2. Brief description of the target audience

**STEAM**- The target audience for the STEAM Science Education program activities were students grades K-12 in the underserved areas of the Black Belt, primarily in Lowndes, Bullock, Barbour, Macon and Wilcox counties. **Let's Move with Soccer**- The target audience is the youth in grades K-9 in Macon, Bullock, Dallas, Sumter and Lowndes counties in the Alabama Black Belt. **NYSD**- Youth in middle and high school ages 8 to 16 years in the undeserved populations of the black belt counties were enrolled to participate in the program.- **PREP**- Adults seeking to acquire the knowledge and skills to conduct a successful job search. **(FACES)** the majority (91%) was from urban areas and only 9% were from rural areas within the state. **FCCP** participants are licensed family child care providers; the majority of them

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are female (100%), over 40 years of age (80%), and African-American (51%). **RS-** Approximately 43% are African American, 53% are White, 1% are Hispanic or Latino, 1% are Asian, 1% are Native American and 1% were biracial. 67% are female and 33% are male.

**Volunteer Youth Development-** This online training program targets youth (8-12 grades) enrolled in the Youth Extension.

### 3. How was eXtension used?

FCCP eXtension Just in Time Parenting newsletters are made available to program participants.

RS- eXtension resources are often utilized as supplemental materials. Participants are also made aware of the eXtension website as a source for research-based information on the family.

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

#### 1. Standard output measures

2015	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
<b>Actual</b>	72473	756397	127879	18388

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

##### Patent Applications Submitted

Year: 2015

Actual: 0

##### Patents listed

#### 3. Publications (Standard General Output Measure)

##### Number of Peer Reviewed Publications

2015	Extension	Research	Total
<b>Actual</b>	6	41	47

### V(F). State Defined Outputs

#### Output Target

##### Output #1

##### Output Measure

- Number of partnerships, publications, newsletters, articles, business plans, volunteers, success stories, testimonies, grants and contracts submitted and/or awarded, support groups, technology- based resources, research-based professional expertise, and curriculum.  
Not reporting on this Output for this Annual Report

**Output #2**

**Output Measure**

- Numbers and participants in: Citizenship Education Tours 4-H Clubs After-school Tech Academies (GIS, Social Media Education, Entrepreneurship, etc.) Youth Gardens Youth Cattle and Goat Shows Group discussions Summer Camps  
Not reporting on this Output for this Annual Report

**Output #3**

**Output Measure**

- Number of Be Safe partnerships

<b>Year</b>	<b>Actual</b>
2015	10

**Output #4**

**Output Measure**

- Number of Let's Move with Soccer partnerships

<b>Year</b>	<b>Actual</b>
2015	20

**Output #5**

**Output Measure**

- Number of Let's Move with Soccer newsletters

<b>Year</b>	<b>Actual</b>
2015	20

**Output #6**

**Output Measure**

- Number of Let's Move with Soccer articles

<b>Year</b>	<b>Actual</b>
2015	2

**Output #7**

**Output Measure**

- Number of Let's Move with Soccer volunteers

<b>Year</b>	<b>Actual</b>
2015	12

**Output #8**

**Output Measure**

- Number of Let's Move with Soccer success stories

<b>Year</b>	<b>Actual</b>
2015	750

**Output #9**

**Output Measure**

- Number of Let's Move with Soccer testimonies

<b>Year</b>	<b>Actual</b>
2015	12

**Output #10**

**Output Measure**

- Number of Let's Move with Soccer support groups

<b>Year</b>	<b>Actual</b>
2015	2

**Output #11**

**Output Measure**

- Number of Let's Move with Soccer technology- based resources

<b>Year</b>	<b>Actual</b>
2015	1

**Output #12**

**Output Measure**

- Number of times Let's Move with Soccer research-based professional expertise engaged.

<b>Year</b>	<b>Actual</b>
2015	2

**Output #13**

**Output Measure**

- Number of Let's Move with Soccer curriculum utilized.

<b>Year</b>	<b>Actual</b>
2015	1

**Output #14**

**Output Measure**

- Number of Let's Move with Soccer participants in 4-H Clubs

<b>Year</b>	<b>Actual</b>
2015	105

**Output #15**

**Output Measure**

- Number of Let's Move with Soccer participants in 4-H After-school

<b>Year</b>	<b>Actual</b>
2015	40

**Output #16**

**Output Measure**

- Number of Let's Move with Soccer participants in Youth Gardens

<b>Year</b>	<b>Actual</b>
2015	250

**Output #17**

**Output Measure**

- Number of Let's Move with Soccer participants in Group discussions

<b>Year</b>	<b>Actual</b>
2015	750

**Output #18**

**Output Measure**

- Number of Let's Move with Soccer participants in Summer Camps

<b>Year</b>	<b>Actual</b>
2015	30

**Output #19**

**Output Measure**

- Number of Let's Move with Soccer participants in Enrichment Programs

<b>Year</b>	<b>Actual</b>
2015	60

**Output #20**

**Output Measure**

- Number of Let's Move with Soccer participants in Activities

<b>Year</b>	<b>Actual</b>
2015	750

**Output #21**

**Output Measure**

- Number of Let's Move with Soccer participants in Special Events

<b>Year</b>	<b>Actual</b>
2015	30

**Output #22**

**Output Measure**

- Number of participants in 4-H In-school clubs Number of participants in 4-H Special Interest Clubs

<b>Year</b>	<b>Actual</b>
2015	105

**Output #23**

**Output Measure**

- Number of Let's Move with Soccer sessions on physical aspects of soccer and rules held at each site

<b>Year</b>	<b>Actual</b>
2015	18

**Output #24**

**Output Measure**

- Number of Let's Move with Soccer sessions on healthy eating practices held at each site

<b>Year</b>	<b>Actual</b>
2015	18

**Output #25**

**Output Measure**

- Follow-up Let's Move with Soccer reports received from parents

<b>Year</b>	<b>Actual</b>
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2015 300

**Output #26**

**Output Measure**

- The number of Let's Move with Soccer follow-up reports received from physical education teachers

<b>Year</b>	<b>Actual</b>
2015	30

**Output #27**

**Output Measure**

- Number of Let's Move with Soccer activities evidenced through observations and collections of measureable data.

<b>Year</b>	<b>Actual</b>
2015	17

**Output #28**

**Output Measure**

- Number of Let's Move with Soccer instructor facilitated measurements and evaluations

<b>Year</b>	<b>Actual</b>
2015	750

**Output #29**

**Output Measure**

- Number of Let's Move with Soccer games and partner activities used to emphasize objectives.

<b>Year</b>	<b>Actual</b>
2015	10

**Output #30**

**Output Measure**

- Number of STEAM partnerships

<b>Year</b>	<b>Actual</b>
2015	21

**Output #31**

**Output Measure**

- The number of STEAM newsletters

<b>Year</b>	<b>Actual</b>
2015	3

**Output #32**

**Output Measure**

- The number of STEAM articles developed

<b>Year</b>	<b>Actual</b>
2015	4

**Output #33**

**Output Measure**

- Number of STEAM volunteers

<b>Year</b>	<b>Actual</b>
2015	32

**Output #34**

**Output Measure**

- Number of STEAM success stories

<b>Year</b>	<b>Actual</b>
2015	40

**Output #35**

**Output Measure**

- Number of STEAM testimonies

<b>Year</b>	<b>Actual</b>
2015	130

**Output #36**

**Output Measure**

- Number of STEAM support groups

<b>Year</b>	<b>Actual</b>
2015	12

**Output #37**

**Output Measure**

- Number of STEAM technology- based resources

<b>Year</b>	<b>Actual</b>
2015	6

**Output #38**

**Output Measure**

- Number of times STEAM research-based professional expertise engaged.

<b>Year</b>	<b>Actual</b>
2015	35

**Output #39**

**Output Measure**

- Number of STEAM curriculum utilized.

<b>Year</b>	<b>Actual</b>
2015	8

**Output #40**

**Output Measure**

- Number of participants in STEAM 4-H Clubs

<b>Year</b>	<b>Actual</b>
2015	250

**Output #41**

**Output Measure**

- Number of participants in STEAM 4-H After-school

<b>Year</b>	<b>Actual</b>
2015	50

**Output #42**

**Output Measure**

- Number of participants in STEAM Youth Gardens

<b>Year</b>	<b>Actual</b>
2015	200

**Output #43**

**Output Measure**

- Number of participants in STEAM Youth Animal Sciences

<b>Year</b>	<b>Actual</b>
2015	18

**Output #44**

**Output Measure**

- Number of participants in ATEAM group discussions

<b>Year</b>	<b>Actual</b>
2015	200

**Output #45**

**Output Measure**

- Number of participants in STEAM Summer Camps

<b>Year</b>	<b>Actual</b>
2015	140

**Output #46**

**Output Measure**

- Number of participants in STEAM Enrichment Programs

<b>Year</b>	<b>Actual</b>
2015	80

**Output #47**

**Output Measure**

- Number of participants in STEAM Activities

<b>Year</b>	<b>Actual</b>
2015	350

**Output #48**

**Output Measure**

- Number of participants in STEAM Special Events

<b>Year</b>	<b>Actual</b>
2015	26

**Output #49**

**Output Measure**

- Number of participants in STEAM 4-H Special Interest Clubs

<b>Year</b>	<b>Actual</b>
2015	18

**Output #50**

**Output Measure**

- Number of participants in STEAM 4-H In-school clubs

<b>Year</b>	<b>Actual</b>
2015	180

**Output #51**

**Output Measure**

- Number of participants in STEAM science activities

<b>Year</b>	<b>Actual</b>
2015	350

**Output #52**

**Output Measure**

- Number of students in STEAM technology activities

<b>Year</b>	<b>Actual</b>
2015	35

**Output #53**

**Output Measure**

- Number of students in STEAM engineering activities

<b>Year</b>	<b>Actual</b>
2015	65

**Output #54**

**Output Measure**

- Number of K-12 Black Belt students in STEAM ag-related activities

<b>Year</b>	<b>Actual</b>
2015	277

**Output #55**

**Output Measure**

- Number of students in STEAM ag-related activities

<b>Year</b>	<b>Actual</b>
2015	277

**Output #56**

**Output Measure**

- Number of students in STEAM mathematics activities

<b>Year</b>	<b>Actual</b>
2015	105

**Output #57**

**Output Measure**

- Number of participants in STEAM science-related competitions

<b>Year</b>	<b>Actual</b>
2015	277

**Output #58**

**Output Measure**

- Number of participants in STEAM internships

<b>Year</b>	<b>Actual</b>
2015	5

**Output #59**

**Output Measure**

- Number of National Youth Science Day (NYSD)partnerships

<b>Year</b>	<b>Actual</b>
2015	15

**Output #60**

**Output Measure**

- Number of National Youth Science Day newsletters distributed

<b>Year</b>	<b>Actual</b>
2015	600

**Output #61**

**Output Measure**

- Number of National Youth Science Day articles developed

<b>Year</b>	<b>Actual</b>
2015	12

**Output #62**

**Output Measure**

- Number of National Youth Science Day volunteers

<b>Year</b>	<b>Actual</b>
2015	150

**Output #63**

**Output Measure**

- Number of National Youth Science Day support groups

<b>Year</b>	<b>Actual</b>
2015	6

**Output #64**

**Output Measure**

- Number of National Youth Science Day technology- based resources

<b>Year</b>	<b>Actual</b>
2015	3

**Output #65**

**Output Measure**

- Number of times National Youth Science Day research-based professional expertise engaged.

<b>Year</b>	<b>Actual</b>
2015	36

**Output #66**

**Output Measure**

- Number of curriculum utilized for National Youth Science Day

<b>Year</b>	<b>Actual</b>
2015	1

**Output #67**

**Output Measure**

- Number of participants in National Youth Science Day 4-H Clubs

<b>Year</b>	<b>Actual</b>
2015	3500

**Output #68**

**Output Measure**

- Number of participants in 4-H After-school:National Youth Science Day

<b>Year</b>	<b>Actual</b>
2015	2700

**Output #69**

**Output Measure**

- Number of National Youth Science Day participants in Group discussions

<b>Year</b>	<b>Actual</b>
2015	2000

**Output #70**

**Output Measure**

- Number of participants in Summer Camps for National Youth Science Day

<b>Year</b>	<b>Actual</b>
2015	2385

**Output #71**

**Output Measure**

- Number of participants in National Youth Science Day Enrichment Programs

<b>Year</b>	<b>Actual</b>
2015	2190

**Output #72**

**Output Measure**

- Number of participants in National Youth Science Day Activities

<b>Year</b>	<b>Actual</b>
2015	2400

**Output #73**

**Output Measure**

- Number of participants in Special Events around National Youth Science Day



<b>Year</b>	<b>Actual</b>
2015	2075

**Output #74**

**Output Measure**

- Number of participants in National Youth Science Day 4-H Special Interest Clubs

<b>Year</b>	<b>Actual</b>
2015	2180

**Output #75**

**Output Measure**

- Number of participants in National Youth Science Day 4-H In-school clubs

<b>Year</b>	<b>Actual</b>
2015	3200

**Output #76**

**Output Measure**

- Number of TU Youth Leadership Development partnerships

<b>Year</b>	<b>Actual</b>
2015	10

**Output #77**

**Output Measure**

- Number of TU Youth Development Leadership volunteers

<b>Year</b>	<b>Actual</b>
2015	161

**Output #78**

**Output Measure**

- Number of TU Youth Development Leadership technology- based resources

<b>Year</b>	<b>Actual</b>
2015	1

**Output #79**

**Output Measure**

- Number of TU Youth Development Leadership curriculum utilized.

<b>Year</b>	<b>Actual</b>
2015	2

**Output #80**

**Output Measure**

- Number of TU Youth Development Leadership participants in 4-H Clubs

<b>Year</b>	<b>Actual</b>
2015	131

**Output #81**

**Output Measure**

- Number of TU Youth Development Leadership participants in 4-H After-school

<b>Year</b>	<b>Actual</b>
2015	65

**Output #82**

**Output Measure**

- Number of Promoting Readiness for Employment Possibilities Prpartnerships

<b>Year</b>	<b>Actual</b>
2015	22

**Output #83**

**Output Measure**

- Number of participants in PREP Activities

<b>Year</b>	<b>Actual</b>
2015	5059

**Output #84**

**Output Measure**

- Number of PREP in-service training meetings

<b>Year</b>	<b>Actual</b>
2015	2

**Output #85**

**Output Measure**

- Number of Reality Check partnerships

<b>Year</b>	<b>Actual</b>
2015	91

**Output #86**

**Output Measure**

- Number of Reality Check volunteers

<b>Year</b>	<b>Actual</b>
2015	1142

**Output #87**

**Output Measure**

- Number of participants in Reality Check activities

<b>Year</b>	<b>Actual</b>
2015	11146

**Output #88**

**Output Measure**

- Number of curriculum utilized for Reality Check

<b>Year</b>	<b>Actual</b>
2015	1

**Output #89**

**Output Measure**

- Number of Making Money Count financial workshops conducted.

<b>Year</b>	<b>Actual</b>
2015	15

**Output #90**

**Output Measure**

- Number of participants in Making Money County activities

<b>Year</b>	<b>Actual</b>
2015	3700

**Output #91**

**Output Measure**

- Number of Credit Report Applications Given and Completed.

<b>Year</b>	<b>Actual</b>
2015	1221

**Output #92**

**Output Measure**

- Number of FACES Activities

<b>Year</b>	<b>Actual</b>
2015	131

**Output #93**

**Output Measure**

- Number of participants in FACES activities

<b>Year</b>	<b>Actual</b>
2015	1873

**Output #94**

**Output Measure**

- Number of positive aging initiative activities implemented

<b>Year</b>	<b>Actual</b>
2015	153

**Output #95**

**Output Measure**

- Number of Successful Aging conferences held.

<b>Year</b>	<b>Actual</b>
2015	9

**Output #96**

**Output Measure**

- Number of Estate Planning Basics Workbooks completed.

<b>Year</b>	<b>Actual</b>
2015	127

**Output #97**

**Output Measure**

- Number of participants in SAI educational classes.

<b>Year</b>	<b>Actual</b>
2015	173

**Output #98**

**Output Measure**

- Number of Family Child Care Partnership participants in Activities

<b>Year</b>	<b>Actual</b>
2015	275

**Output #99**

**Output Measure**

- Number of Family Child Care Partnership mentoring visits

<b>Year</b>	<b>Actual</b>
2015	3922

**Output #100**

**Output Measure**

- Number of individuals who participated in natural resource and environmental education activities

<b>Year</b>	<b>Actual</b>
2015	127585

**Output #101**

**Output Measure**

- Number of individuals who participated in water monitoring educational activities

<b>Year</b>	<b>Actual</b>
2015	1204

**Output #102**

**Output Measure**

- Number of individuals that utilize AOC outdoor classrooms at Alabama public schools

<b>Year</b>	<b>Actual</b>
2015	62000

**Output #103**

**Output Measure**

- Number of participants in Youth Gardens

<b>Year</b>	<b>Actual</b>
2015	5131

**Output #104**

**Output Measure**

- Number of youth who participated in outreach programming delivered by the 4-H Science School

<b>Year</b>	<b>Actual</b>
2015	15729

**Output #105**

**Output Measure**

- Number of youth who participated in on-site programs at the 4-H Science School

<b>Year</b>	<b>Actual</b>
2015	4750

**Output #106**

**Output Measure**

- Number of youth individuals that participated in 4-H SAFE educational activities

<b>Year</b>	<b>Actual</b>
2015	6140

**Output #107**

**Output Measure**

- Number of youth in 4H Natural Resource Special Events

<b>Year</b>	<b>Actual</b>
2015	65933

**Output #108**

**Output Measure**

- Number of Healthy Relationship grants and contracts submitted and/or awarded.

<b>Year</b>	<b>Actual</b>
2015	1

**Output #109**

**Output Measure**

- Number of Healthy Relationship publications

<b>Year</b>	<b>Actual</b>
2015	8

**Output #110**

**Output Measure**

- Number of participants in Healthy Relationship Activities

<b>Year</b>	<b>Actual</b>
2015	2793

**Output #111**

**Output Measure**

- Number of Healthy Relationship curriculum utilized.

<b>Year</b>	<b>Actual</b>
2015	4

**Output #112**

**Output Measure**

- Number of Healthy Relationship partnerships

<b>Year</b>	<b>Actual</b>
2015	8

**Output #113**

**Output Measure**

- Number of AU SCP partnerships

<b>Year</b>	<b>Actual</b>
2015	13

**Output #114**

**Output Measure**

- Number of AU SCP grants and contracts submitted and/or awarded.

<b>Year</b>	<b>Actual</b>
2015	1

**Output #115**

**Output Measure**

- Number of participants in AU SCP Activities

<b>Year</b>	<b>Actual</b>
2015	266

**Output #116**

**Output Measure**

- Number of participants in 4-H Clubs

<b>Year</b>	<b>Actual</b>
2015	69049

**Output #117**

**Output Measure**

- Number of participants in 4-H After-school

<b>Year</b>	<b>Actual</b>
2015	1856

**Output #118**

**Output Measure**

- Number of participants in Youth Gardens

<b>Year</b>	<b>Actual</b>
2015	11259

**Output #119**

**Output Measure**

- Number of participants in Youth Animal

<b>Year</b>	<b>Actual</b>
2015	39374

**Output #120**

**Output Measure**

- Number of participants in Summer Camps

<b>Year</b>	<b>Actual</b>
2015	15787

**Output #121**

**Output Measure**

- Number of participants in Enrichment Programs



<b>Year</b>	<b>Actual</b>
2015	82811

**Output #122**

**Output Measure**

- Number of military clubs

<b>Year</b>	<b>Actual</b>
2015	63

**Output #123**

**Output Measure**

- Number of participants in 4H Activities

<b>Year</b>	<b>Actual</b>
2015	225978

**Output #124**

**Output Measure**

- Number of participants in 4-H In-school clubs

<b>Year</b>	<b>Actual</b>
2015	58511

**Output #125**

**Output Measure**

- 4-H Youth team development of engineering design prototypes based upon real world challenges.

<b>Year</b>	<b>Actual</b>
2015	1118

**Output #126**

**Output Measure**

- 4-H Field training in every county in the state.

<b>Year</b>	<b>Actual</b>
2015	67

**Output #127**

**Output Measure**

- Hours of staff engagement in Field Day trainings provided by state staff.

<b>Year</b>	<b>Actual</b>
2015	268

**Output #128**

**Output Measure**

- 4-H Volunteer Training

<b>Year</b>	<b>Actual</b>
2015	1004

**Output #129**

**Output Measure**

- Value of 4-H Volunteer Contribution

<b>Year</b>	<b>Actual</b>
2015	1100000

**Output #130**

**Output Measure**

- Amount of TGIF grants and contracts submitted and/or awarded.

<b>Year</b>	<b>Actual</b>
2015	341000

**Output #131**

**Output Measure**

- Number of curriculum utilized for TGIF

<b>Year</b>	<b>Actual</b>
2015	2

**Output #132**

**Output Measure**

- Number of TGIF partnerships

<b>Year</b>	<b>Actual</b>
2015	1

**Output #133**

**Output Measure**

- Number of participants in TGIF 4-H In-school clubs

<b>Year</b>	<b>Actual</b>
2015	288

**Output #134**

**Output Measure**

- Number of youth surveyed in leadership roles

<b>Year</b>	<b>Actual</b>
2015	4601

**Output #135**

**Output Measure**

- Number of Urban volunteers

<b>Year</b>	<b>Actual</b>
2015	1506

**Output #136**

**Output Measure**

- Number of participants in Alabama Health Rocks Activities

<b>Year</b>	<b>Actual</b>
2015	4131

**Output #137**

**Output Measure**

- Number of participants in TMI Activities

<b>Year</b>	<b>Actual</b>
2015	1612

**Output #138**

**Output Measure**

- Number of participants in Urban SET Activities

<b>Year</b>	<b>Actual</b>
2015	211

**Output #139**

**Output Measure**

- Number of participants in 4H Health Rocks Enrichment Programs

<b>Year</b>	<b>Actual</b>
2015	653

**Output #140**

**Output Measure**

- Number of Estate Planning Seminars Implemented

<b>Year</b>	<b>Actual</b>
2015	13

**Output #141**

**Output Measure**

- Number of Y-LAMMS workshops conducted

<b>Year</b>	<b>Actual</b>
2015	7

**Output #142**

**Output Measure**

- Number of Math Infusion Center Partnerships

<b>Year</b>	<b>Actual</b>
2015	1

**Output #143**

**Output Measure**

- Number of Math Infusion Center Volunteers

<b>Year</b>	<b>Actual</b>
2015	1

**Output #144**

**Output Measure**

- Technology-based resources used in the Math Infusion Center

<b>Year</b>	<b>Actual</b>
2015	1

**Output #145**

**Output Measure**

- Times research-based professional expertise engaged with the Math Infusion Center

<b>Year</b>	<b>Actual</b>
2015	12

**Output #146**

**Output Measure**

- The number of Curriculum utilized in the Math Infusion Center

<b>Year</b>	<b>Actual</b>
2015	5

**Output #147**

**Output Measure**

- Participants in Math Infusion Center Enrichment Programs

<b>Year</b>	<b>Actual</b>
2015	60

**Output #148**

**Output Measure**

- The number of Math Infusion Center activities

<b>Year</b>	<b>Actual</b>
2015	100

**Output #149**

**Output Measure**

- Number of AU Research publications

<b>Year</b>	<b>Actual</b>
2015	30

**V(G). State Defined Outcomes**

**V. State Defined Outcomes Table of Content**

O. No.	OUTCOME NAME
1	4-H volunteers recruited, screened, trained, and retained.
2	Life-skills gained
3	Knowledge gains
4	Business Plans Developed
5	Number of people adopting credit, saving, asset management, and career development practices
6	Dollars saved as a result of counseling and referrals.
7	Participant's knowledge, understanding, and application of science, technology, engineering and math concepts; application of technical skills to grow and prepare food items in, and on from the gardens; quality of cattle and goats participating in livestock shows; public speaking, marketing, decision- making and agrifood business and leadership.
8	The number of youth who increasing understanding that bullying and harassment are different
9	The number of youth can describe qualities of a healthy and unhealthy peer relationship
10	The number of youth who increase knowledge of strategies to help someone who is being bullied
11	The number of youth who increased knowledge of what to do when they do not feel safe
12	The number of K-9 Black Belt youth who increased physical stamina as a result of Let's Move With Soccer
13	The number of K-9 Black Belt students who lost weight as a result of Let's Move With Soccer
14	The number K-9 Black Belt youth who increase healthy food choices as a result of Let's Move With Soccer
15	The number of K-9 Black Belt youth who increased decision making skills as a result of Let's Move with Soccer
16	The number of K-9 Black Belt students who increased leadership skills
17	The number of K-9 Black Belt students who maintained healthy behaviors (weight loss, physical stamina and endurance) after one year

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18	The number of K-9 Black Belt students who increased physical activity as a result of Let's Move with Soccer
19	The number of K-9 Black Belt youth who eat more vegetables as a result of Let's Move With Soccer
20	The number of K-9 youth who drink less soda and more water
21	The number of K-9 Black Belt youth who decreased TV/screen time
22	The number of K-9 Black Belt students who increased life skills (social skills, sportsmanship, teamwork and leadership skills)
23	Number of K-9 Black Belt youth who are able to articulate and write or demonstrate the 3210 program as a result of Let's Move With Soccer
24	The number of K-9 Black Belt students who demonstrate the ability to follow multi-step directions
25	Number of K-9 Black Belt youth who demonstrated effective good sportsmanship throughout the year as a result of Let's Move with Soccer
26	The number of K-12 students from the Black Belt who demonstrated increase in knowledge STEAM
27	The number of K-12 students from the Black Belt who increased knowledge of raptors and reptiles
28	The number of K-12 students from Alabama Black Belt who used the arts to demonstrate increased knowledge of natural resources
29	The number of K-12 youth from the Black Belt who increased math skills (problem solving, logical reasoning, and other mathematics skills)
30	The number of K-12 students from the Black Belt who demonstrated the capacity to conduct research
31	The number of K-12 students from the Black Belt who increased leadership skills
32	The number of K-12 youth from the Black Belt who increased in knowledge of scientific method
33	Number of K-12 students from the Black Belt who demonstrate increased knowledge of the importance of water and other natural resources
34	Number of 4 and 5 grade Black Belt students who adopted best management practices for animal care of fertilized eggs and baby chicks
35	The number of K-12 youth from the Black Belt who increased agricultural skills through school gardens
36	The number of National Youth Science Day students who increased STEM skills through hands on rocket building
37	The number of NYSD participants who increased life skills (citizenship, health, and leadership) through science

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38	Number of TU Youth Development Leadership participants who increased knowledge of life skills
39	Number of TU Youth Development Leadership participants who increased leadership skills
40	The number of TU SNAP-Ed students who increased healthy behaviors
41	Number of PREP participants who develop Life-skills
42	The number of PREP participants who increase financial management knowledge
43	Number of Making Money County participants who increased financial management knowledge
44	The number of Making Money County participants who increase financial management skills
45	Number of FACES participants who increased knowledge related to family strengthening
46	The number of FACES participants who maintained strong family relationships
47	Number of SAI participants who develop increased knowledge of successful aging
48	Number of SAI participants who increased financial planning skills
49	Number of Family Child Care Partnership participants who improved application of child development best practices
50	The number of Family Child Partnership providers who have established accredited family based child facilities
51	The number of people who increased knowledge of environmental literacy efforts
52	Number of data records submitted by 4-H AWW groups as a result of implementation of water resource programming
53	The number adults who increased skills related to shooting sports safety
54	The number of youth who increased knowledge of forestry and wildlife sciences
55	Number of participants who increase knowledge related to healthy relationship
56	The number of adults who increased healthy relationship skills
57	The number of adults who maintained healthy relationships



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58	The number of youth who increase knowledge related to healthy relationships
59	The number of youth who increased healthy relationship skills
60	The number of youth who maintained healthy relationships
61	Number of AU SCP participants who increased quality of parent child relationships
62	Number of PROSPER participants who increased positive behavior
63	The number of PROSPER participants who decreased risky behavior
64	The number of Elmore County youth who developed leadership skills
65	Number of participants who increased knowledge related to STEM
66	The number of 4Hi participants who increased the ability to follow design protocols
67	The number of 4Hi youth who increased interest in STEM careers
68	The number of 4H volunteers who increase volunteerism subject matter expertise
69	Number of participants who increased knowledge of risky sexual behaviors
70	The number of TGIF youth who increased communication skills
71	The number of TGIF youth who increase commitment to abstinence
72	Number of TGIF participants who develop lifeskills
73	The number of TGIF youth who increased their ability to differentiate healthy and unhealthy relationships
74	The number of TGIF youth who increased their ability to recognize different types of abuse (physical and emotional)
75	Number of participants who increased decision making skills as a result of youth leadership
76	The number of youth who increased collaborative behaviors through youth leadership
77	The number of youth who increased problem solving skills through youth leadership

78	Number of Urban volunteers who increased knowledge of computer skills
79	Number of participants who gain knowledge about substance use
80	The number of Health Rocks participants who set goals for themselves
81	The number of Health Rocks youth who increased future orientation skills.
82	The number of Health Rocks youth who increased their ability to take focused on learning at school
83	Number of TMI participants who develop Life-skills
84	Number of Urban SET participants who increased STEM knowledge
85	The number of Urban SET youth who increased their ability to use scientific methods
86	The number of 4H Health Rocks youth who increased confidence
87	The number of 4H Health Rocks youth who have increased decision making skills
88	The number of adults who increased estate planning knowledge
89	The number of Y-LAMMS youth who increased money management knowledge
90	The number of K-12 youth who increased problem solving skills as a result of the Math Infusion Center

**Outcome #1**

**1. Outcome Measures**

4-H volunteers recruited, screened, trained, and retained.

Not Reporting on this Outcome Measure

**Outcome #2**

**1. Outcome Measures**

Life-skills gained

Not Reporting on this Outcome Measure

**Outcome #3**

**1. Outcome Measures**

Knowledge gains

Not Reporting on this Outcome Measure

**Outcome #4**

**1. Outcome Measures**

Business Plans Developed

Not Reporting on this Outcome Measure

**Outcome #5**

**1. Outcome Measures**

Number of people adopting credit, saving, asset management, and career development practices

Not Reporting on this Outcome Measure

**Outcome #6**

**1. Outcome Measures**

Dollars saved as a result of counseling and referrals.

Not Reporting on this Outcome Measure

**Outcome #7**

**1. Outcome Measures**

Participant's knowledge, understanding, and application of science, technology, engineering and math concepts; application of technical skills to grow and prepare food items in, and on from the gardens; quality of cattle and goats participating in livestock shows; public speaking, marketing, decision- making and agrifood business and leadership.

Not Reporting on this Outcome Measure

**Outcome #8**

**1. Outcome Measures**

The number of youth who increasing understanding that bullying and harassment are different

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Knowledge Outcome Measure

**3b. Quantitative Outcome**

Year	Actual
2015	53

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

**Issue (Who cares and Why)**

Too many approaches to bullying either minimize or ignore the difference between bullying and what could more accurately be identifies as illegal civil rights violations and even hate crimes.

**What has been done**

Agents teach a lesson to help students understand stereotypes and the difference between bullying and harassment.

**Results**

Youth's knowledge that bullying and harassment are different increased  $p=.050$

**4. Associated Knowledge Areas**

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

**Outcome #9**

**1. Outcome Measures**

The number of youth can describe qualities of a healthy and unhealthy peer relationship

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Knowledge Outcome Measure

**3b. Quantitative Outcome**

Year	Actual
2015	63

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

**Issue (Who cares and Why)**

It is important to youth to development the capacity to nurture and navigate relationships during early adolescence.

**What has been done**

Agents use an Interactive activity to help youth understand the differences between healthy and unhealthy relationship and understand that issues that come up related to behaviors are often continuum

**Results**

Youth's ability to describe qualities of a healthy and unhealthy peer relationship p=.000

**4. Associated Knowledge Areas**

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

**Outcome #10**

**1. Outcome Measures**

The number of youth who increase knowledge of strategies to help someone who is being bullied

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Knowledge Outcome Measure

**3b. Quantitative Outcome**

Year	Actual
2015	78

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

**Issue (Who cares and Why)**

Settings where bullying behaviors occur nearly always involve a larger group of bystanders. Oftentimes youth do not know how to stand up for others.

**What has been done**

Youth participate in role playing and scenario-based activities. They are also given an "Action for Allies" handout that gives strategies for not only verbally intervening, but also support-based non-confrontational strategies for helping those being victimized.

**Results**

Youth's knowledge of strategies to help someone who is being bullied increased  $p=.007$

**4. Associated Knowledge Areas**

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

**Outcome #11**

**1. Outcome Measures**

The number of youth who increased knowledge of what to do when they do not feel safe

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Knowledge Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2015	67

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

**Issue (Who cares and Why)**

Youth who are being bullied or see others being bullied need to feel safe and feel empowered and prepared to respond to bullying when it occurs

**What has been done**

Youth participate in activities that asks them to come up with a personal safety plan and identify adults that they can talk to when they need help.

**Results**

Youth's knowledge of what to do when they do not feel safe increased  $p=.001$

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
802	Human Development and Family Well-Being

**Outcome #12**

**1. Outcome Measures**

The number of K-9 Black Belt youth who increased physical stamina as a result of Let's Move With Soccer

**2. Associated Institution Types**

- 1890 Extension
- 1890 Research

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2015	300

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

**Issue (Who cares and Why)**

The target audience is the youth in grades K-9 in Macon, Bullock, Dallas, Sumter and Lowndes counties in the Alabama Black Belt. It is well-known throughout the nation that Michelle Obama has made youth fitness her mission. Childhood obesity is critical especially throughout the Black Belt communities. Youth need the tools, the hand-on means and the encouragement of their families and community members to strive for physical fitness and healthier lives. All youth are not proficient in football, baseball and basketball. Soccer offers a different opportunity for physical activity

**What has been done**

Bi-weekly lessons alternated for each site which received a one hour session in soccer training and techniques and a one hour session in healthy eating practices and the importance of the 3210 program. These sessions were inclusive of presentations, demonstrations and discussions regarding healthy eating practices, and consumption of water rather than sodas.

**Results**

Tuskegee Research and Extension Of the 750 students who learned more healthy eating practices, the importance of physical exercise and fitness and to apply the 3210 program increased physical stamina.

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
802	Human Development and Family Well-Being
806	Youth Development

**Outcome #13**

**1. Outcome Measures**

The number of K-9 Black Belt students who lost weight as a result of Let's Move With Soccer

**2. Associated Institution Types**

- 1890 Extension
- 1890 Research

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2015	150

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



**Issue (Who cares and Why)**

The target audience is the youth in grades K-9 in Macon, Bullock, Dallas, Sumter and Lowndes counties in the Alabama Black Belt. It is well-known throughout the nation that Michelle Obama has made youth fitness her mission. Childhood obesity is critical especially throughout the Black Belt communities. Youth need the tools, the hand-on means and the encouragement of their families and community members to strive for physical fitness and healthier lives. All youth are not proficient in football, baseball and basketball. Soccer offers a different opportunity for physical activity

**What has been done**

Bi-weekly lessons alternated for each site which received a one hour session in soccer training and techniques and a one hour session in healthy eating practices and the importance of the 3210 program. These sessions were inclusive of presentations, demonstrations and discussions regarding healthy eating practices, and consumption of water rather than sodas

**Results**

Tuskegee Research and Extension -Of the 750 students who learned more healthy eating practices, the importance of physical exercise and fitness and to apply the 3210 program 20% showed measureable decrease in weight.

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
802	Human Development and Family Well-Being
806	Youth Development

**Outcome #14**

**1. Outcome Measures**

The number K-9 Black Belt youth who increase healthy food choices as a result of Let's Move With Soccer

**2. Associated Institution Types**

- 1890 Extension
- 1890 Research

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2015	563

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

**Issue (Who cares and Why)**

The target audience is the youth in grades K-9 in Macon, Bullock, Dallas, Sumter and Lowndes counties in the Alabama Black Belt. It is well-known throughout the nation that Michelle Obama has made youth fitness her mission. Childhood obesity is critical especially throughout the Black Belt communities. Youth need the tools, the hand-on means and the encouragement of their families and community members to strive for physical fitness and healthier lives. All youth are not proficient in football, baseball and basketball. Soccer offers a different opportunity for physical activity

**What has been done**

Bi-weekly lessons alternated for each site which received a one hour session in soccer training and techniques and a one hour session in healthy eating practices and the importance of the 3210 program. These sessions were inclusive of presentations, demonstrations and discussions regarding healthy eating practices, and consumption of water rather than sodas.

**Results**

Tuskegee Research and Extension - We reached over 750 students in grades K-9 who learned more healthy eating practices, the importance of physical exercise and fitness and to apply the 3210 program. Through the use of post project survey results, 75% of participants expressed that they were eating healthier and using the 3210 program.

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
802	Human Development and Family Well-Being
806	Youth Development

**Outcome #15**

**1. Outcome Measures**

The number of K-9 Black Belt youth who increased decision making skills as a result of Let's Move with Soccer

**2. Associated Institution Types**

- 1890 Extension
- 1890 Research

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2015	0

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

**Issue (Who cares and Why)**

The target audience is the youth in grades K-9 in Macon, Bullock, Dallas, Sumter and Lowndes counties in the Alabama Black Belt. It is well-known throughout the nation that Michelle Obama has made youth fitness her mission. Childhood obesity is critical especially throughout the Black Belt communities. Youth need the tools, the hand-on means and the encouragement of their families and community members to strive for physical fitness and healthier lives. All youth are not proficient in football, baseball and basketball. Soccer offers a different opportunity for physical activity

**What has been done**

Bi-weekly lessons alternated for each site which received a one hour session in soccer training and techniques and a one hour session in healthy eating practices and the importance of the 3210 program. These sessions were inclusive of presentations, demonstrations and discussions regarding healthy eating practices, and consumption of water rather than sodas.

**Results**

Tuskegee Research and Extension - Of the 750 students, 50% improved decision-making skills measured.

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
802	Human Development and Family Well-Being
806	Youth Development

**Outcome #16**

**1. Outcome Measures**

The number of K-9 Black Belt students who increased leadership skills

**2. Associated Institution Types**

- 1890 Extension
- 1890 Research

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2015	225

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

**Issue (Who cares and Why)**

The target audience is the youth in grades K-9 in Macon, Bullock, Dallas, Sumter and Lowndes counties in the Alabama Black Belt. It is well-known throughout the nation that Michelle Obama has made youth fitness her mission. Childhood obesity is critical especially throughout the Black Belt communities. Youth need the tools, the hand-on means and the encouragement of their families and community members to strive for physical fitness and healthier lives. All youth are not proficient in football, baseball and basketball. Soccer offers a different opportunity for physical activity

**What has been done**

Bi-weekly lessons alternated for each site which received a one hour session in soccer training and techniques and a one hour session in healthy eating practices and the importance of the 3210 program. These sessions were inclusive of presentations, demonstrations and discussions regarding healthy eating practices, and consumption of water rather than sodas.

**Results**

Tuskegee Extension and Research- Of the 750 students who participated 30% increased leadership skills and readily took leadership roles with team and in other areas. -100% of older participants served as trainers, coaches, scorekeepers, mentors.

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
802	Human Development and Family Well-Being
806	Youth Development

**Outcome #17**

**1. Outcome Measures**

The number of K-9 Black Belt students who maintained healthy behaviors (weight loss, physical stamina and endurance) after one year

**2. Associated Institution Types**

- 1890 Extension
- 1890 Research

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2015	300

### 3c. Qualitative Outcome or Impact Statement

#### Issue (Who cares and Why)

The target audience is the youth in grades K-9 in Macon, Bullock, Dallas, Sumter and Lowndes counties in the Alabama Black Belt. It is well-known throughout the nation that Michelle Obama has made youth fitness her mission. Childhood obesity is critical especially throughout the Black Belt communities. Youth need the tools, the hand-on means and the encouragement of their families and community members to strive for physical fitness and healthier lives. All youth are not proficient in football, baseball and basketball. Soccer offers a different opportunity for physical activity

#### What has been done

Bi-weekly lessons alternated for each site which received a one hour session in soccer training and techniques and a one hour session in healthy eating practices and the importance of the 3210 program. These sessions were inclusive of presentations, demonstrations and discussions regarding healthy eating practices, and consumption of water rather than sodas.

#### Results

Tuskegee Research and Extension - We measured participants weight, physical stamina and endurance at the beginning of the year and at the end of the year at realized at least a 40% difference ( N= 750). 40% of youth demonstrated increased stamina. After the soccer sessions, 100% the students developed the physical skills to enable them to become better soccer players. The students learned the skills of dribbling, passing, trapping, shooting, goalkeeping along with offense and defense. The development of these necessary skills produced a well-rounded beginning soccer players. 40% of participants exhibited improved muscle strength and measureable weight loss

### 4. Associated Knowledge Areas

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

#### Outcome #18

##### 1. Outcome Measures

The number of K-9 Black Belt students who increased physical activity as a result of Let's Move with Soccer

##### 2. Associated Institution Types

- 1890 Extension
- 1890 Research

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2015	750

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

**Issue (Who cares and Why)**

The target audience is the youth in grades K-9 in Macon, Bullock, Dallas, Sumter and Lowndes counties in the Alabama Black Belt. It is well-known throughout the nation that Michelle Obama has made youth fitness her mission. Childhood obesity is critical especially throughout the Black Belt communities. Youth need the tools, the hand-on means and the encouragement of their families and community members to strive for physical fitness and healthier lives. All youth are not proficient in football, baseball and basketball. Soccer offers a different opportunity for physical activity

**What has been done**

Bi-weekly lessons alternated for each site which received a one hour session in soccer training and techniques and a one hour session in healthy eating practices and the importance of the 3210 program. These sessions were inclusive of presentations, demonstrations and discussions regarding healthy eating practices, and consumption of water rather than sodas.

**Results**

Tuskegee Research and Extension - Of the 750 participants, 100% increased participation in physical activities

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
802	Human Development and Family Well-Being
806	Youth Development

**Outcome #19**

**1. Outcome Measures**

The number of K-9 Black Belt youth who eat more vegetables as a result of Let's Move With Soccer

**2. Associated Institution Types**

- 1890 Extension
- 1890 Research

### 3a. Outcome Type:

Change in Action Outcome Measure

### 3b. Quantitative Outcome

Year	Actual
2015	300

### 3c. Qualitative Outcome or Impact Statement

#### Issue (Who cares and Why)

It is well-known throughout the nation that Michelle Obama has made youth fitness her mission. Childhood obesity is critical especially throughout the Black Belt communities. Youth need the tools, the hand-on means and the encouragement of their families and community members to strive for physical fitness and healthier lives. All youth are not proficient in football, baseball and basketball. Soccer offers a different opportunity for physical activity

#### What has been done

Bi-weekly lessons alternated for each site which received a one hour session in soccer training and techniques and a one hour session in healthy eating practices and the importance of the 3210 program. These sessions were inclusive of presentations, demonstrations and discussions regarding healthy eating practices, and consumption of water rather than sodas.

#### Results

Tuskegee Research and Extension- Of the 750 youth participating, 40% of youth reported eating more vegetables.

### 4. Associated Knowledge Areas

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

### Outcome #20

#### 1. Outcome Measures

The number of K-9 youth who drink less soda and more water

#### 2. Associated Institution Types

- 1890 Extension
- 1890 Research

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2015	300

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

**Issue (Who cares and Why)**

It is well-known throughout the nation that Michelle Obama has made youth fitness her mission. Childhood obesity is critical especially throughout the Black Belt communities. Youth need the tools, the hand-on means and the encouragement of their families and community members to strive for physical fitness and healthier lives. All youth are not proficient in football, baseball and basketball. Soccer offers a different opportunity for physical activity

**What has been done**

Bi-weekly lessons alternated for each site which received a one hour session in soccer training and techniques and a one hour session in healthy eating practices and the importance of the 3210 program. These sessions were inclusive of presentations, demonstrations and discussions regarding healthy eating practices, and consumption of water rather than sodas.

**Results**

Tuskegee Research and Extension - Of the 750 students, 40% of youth reported drinking less sodas and more water

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
802	Human Development and Family Well-Being
806	Youth Development

**Outcome #21**

**1. Outcome Measures**

The number of K-9 Black Belt youth who decreased TV/screen time

**2. Associated Institution Types**



- 1890 Extension
- 1890 Research

### 3a. Outcome Type:

Change in Action Outcome Measure

### 3b. Quantitative Outcome

Year	Actual
2015	113

### 3c. Qualitative Outcome or Impact Statement

#### Issue (Who cares and Why)

It is well-known throughout the nation that Michelle Obama has made youth fitness her mission. Childhood obesity is critical especially throughout the Black Belt communities. Youth need the tools, the hand-on means and the encouragement of their families and community members to strive for physical fitness and healthier lives. All youth are not proficient in football, baseball and basketball. Soccer offers a different opportunity for physical activity

#### What has been done

Bi-weekly lessons alternated for each site which received a one hour session in soccer training and techniques and a one hour session in healthy eating practices and the importance of the 3210 program. These sessions were inclusive of presentations, demonstrations and discussions regarding healthy eating practices, and consumption of water rather than sodas.

#### Results

Tuskegee Research and Extension- Of the 750 students, 15% of youth reported less TV time.

## 4. Associated Knowledge Areas

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

**Outcome #22**

**1. Outcome Measures**

The number of K-9 Black Belt students who increased life skills (social skills, sportsmanship, teamwork and leadership skills)

**2. Associated Institution Types**

- 1890 Extension
- 1890 Research

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

Year	Actual
2015	300

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

**Issue (Who cares and Why)**

It is well-known throughout the nation that Michelle Obama has made youth fitness her mission. Childhood obesity is critical especially throughout the Black Belt communities. Youth need the tools, the hand-on means and the encouragement of their families and community members to strive for physical fitness and healthier lives. All youth are not proficient in football, baseball and basketball. Soccer offers a different opportunity for physical activity

**What has been done**

Bi-weekly lessons alternated for each site which received a one hour session in soccer training and techniques and a one hour session in healthy eating practices and the importance of the 3210 program. These sessions were inclusive of presentations, demonstrations and discussions regarding healthy eating practices, and consumption of water rather than sodas.

**Results**

Tuskegee Research and Extension- After these soccer sessions, 40% of the participants developed their social skills and were able to relate to one another and work together to share the importance of the 3210 program and encourage others. These kinds of skills were developed through game-like situations and working with partners . 40% showed improvement in sportsmanship, teamwork and positive attitudes

**4. Associated Knowledge Areas**

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

**Outcome #23**

**1. Outcome Measures**

Number of K-9 Black Belt youth who are able to articulate and write or demonstrate the 3210 program as a result of Let's Move With Soccer

**2. Associated Institution Types**

- 1890 Extension
- 1890 Research

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

Year	Actual
2015	450

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

**Issue (Who cares and Why)**

It is well-known throughout the nation that Michelle Obama has made youth fitness her mission. Childhood obesity is critical especially throughout the Black Belt communities. Youth need the tools, the hand-on means and the encouragement of their families and community members to strive for physical fitness and healthier lives. All youth are not proficient in football, baseball and basketball. Soccer offers a different opportunity for physical activity

**What has been done**

Bi-weekly lessons alternated for each site which received a one hour session in soccer training and techniques and a one hour session in healthy eating practices and the importance of the 3210 program. These sessions were inclusive of presentations, demonstrations and discussions regarding healthy eating practices, and consumption of water rather than sodas.

**Results**

Tuskegee Research and Extension- Of the 750 students, 60% could articulate and record in written form those foods that are healthful as well as those that are not. 80% were able to record and articulate the 3210 program.

**4. Associated Knowledge Areas**

**KA Code    Knowledge Area**

802	Human Development and Family Well-Being
806	Youth Development

**Outcome #24**

**1. Outcome Measures**

The number of K-9 Black Belt students who demonstrate the ability to follow multi-step directions

**2. Associated Institution Types**

- 1890 Extension
- 1890 Research

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

Year	Actual
2015	600

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

**Issue (Who cares and Why)**

It is well-known throughout the nation that Michelle Obama has made youth fitness her mission. Childhood obesity is critical especially throughout the Black Belt communities. Youth need the tools, the hand-on means and the encouragement of their families and community members to strive for physical fitness and healthier lives. All youth are not proficient in football, baseball and basketball. Soccer offers a different opportunity for physical activity

**What has been done**

Bi-weekly lessons alternated for each site which received a one hour session in soccer training and techniques and a one hour session in healthy eating practices and the importance of the 3210 program. These sessions were inclusive of presentations, demonstrations and discussions regarding healthy eating practices, and consumption of water rather than sodas.

**Results**

Tuskegee Research and Extension - Of the 750 students, 80% of the participants exhibited an increase in ability to follow multi-step directions both written and oral.

**4. Associated Knowledge Areas**

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

### **Outcome #25**

#### **1. Outcome Measures**

Number of K-9 Black Belt youth who demonstrated effective good sportsmanship throughout the year as a result of Let's Move with Soccer

#### **2. Associated Institution Types**

- 1890 Extension
- 1890 Research

#### **3a. Outcome Type:**

Change in Action Outcome Measure

#### **3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2015	746

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

##### **Issue (Who cares and Why)**

It is well-known throughout the nation that Michelle Obama has made youth fitness her mission. Childhood obesity is critical especially throughout the Black Belt communities. Youth need the tools, the hand-on means and the encouragement of their families and community members to strive for physical fitness and healthier lives. All youth are not proficient in football, baseball and basketball. Soccer offers a different opportunity for physical activity

##### **What has been done**

Bi-weekly lessons alternated for each site which received a one hour session in soccer training and techniques and a one hour session in healthy eating practices and the importance of the 3210 program. These sessions were inclusive of presentations, demonstrations and discussions regarding healthy eating practices, and consumption of water rather than sodas.

##### **Results**

Tuskegee Research and Extension- Of the 750 students who participated 746 consistently demonstrated effective conflict resolution and good sportsmanship. Throughout the entire year, there were only 4 students who engaged in verbal or physical altercations.

#### **4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
802	Human Development and Family Well-Being
806	Youth Development

**Outcome #26**

**1. Outcome Measures**

The number of K-12 students from the Black Belt who demonstrated increase in knowledge STEAM

**2. Associated Institution Types**

- 1890 Extension
- 1890 Research

**3a. Outcome Type:**

Change in Knowledge Outcome Measure

**3b. Quantitative Outcome**

Year	Actual
2015	277

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

**Issue (Who cares and Why)**

Students grades K-12 in the underserved areas of the Black Belt, primarily in Lowndes, Bullock, Barbour, Macon and Wilcox counties.

have a need for the development, nurturing and enhancement of and science and technology.

There is a cycle of poverty that can be broken with new opportunities and experiences. There are areas where prospects and resources are limited and there is a recognized need for sources of supplemental enrichment in STEM education, preparation for the future. Parents and stakeholders take an interest in the future of the youth in these areas

**What has been done**

Direct instruction, demonstrations, shared activities, leadership activities, mentorships have been provided. We had science fairs, fertilized eggs, planting and harvesting activities, career development discussions. Envirobowl and scholar bowl students became more aware of environmental science, biology, chemistry and Alabama related agriculture issues by studying materials for competition under the leadership of partner sponsors.

**Results**

Tuskegee Research and Extension - Over 277 students participated in the science fair, the Envirobowl and the Scholar Bowl. Envirobowl team won third place in the regional competition and fifth place in the state competition

**4. Associated Knowledge Areas**

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

**Outcome #27**

**1. Outcome Measures**

The number of K-12 students from the Black Belt who increased knowledge of raptors and reptiles

**2. Associated Institution Types**

- 1890 Extension
- 1890 Research

**3a. Outcome Type:**

Change in Knowledge Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2015	450

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

**Issue (Who cares and Why)**

The target audience for the STEM Science Education program activities were students grades K-12 in the underserved areas of the Black Belt, primarily in Lowndes, Bullock, Barbour, Macon and Wilcox counties.

This target audience has a need for the development, nurturing and enhancement of and science and technology. There is a cycle of poverty that can be broken with new opportunities and experiences. There are areas where prospects and resources are limited and there is a recognized need for sources of supplemental enrichment in STEM education, preparation for the future. Parents and stakeholders take an interest in the future of the youth in these areas

**What has been done**

Direct instruction, demonstrations, shared activities, leadership activities, mentorships have been provided. We had science fairs, fertilized eggs, planting and harvesting activities , career development discussions. Envirobowl and scholar bowl students became more aware of environmental science, biology, chemistry and Alabama related agriculture issues by studying materials for competition under the leadership of partner sponsors.

**Results**

Tuskegee Research and Extension - Over 450 participants expressed an increase in knowledge of importance of reptiles and raptors as a result of presentation by the Coosa River Science School Birds of Prey and Raptor Trek at 4 sites in the Black Belt.

#### 4. Associated Knowledge Areas

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

#### Outcome #28

##### 1. Outcome Measures

The number of K-12 students from Alabama Black Belt who used the arts to demonstrate increased knowledge of natural resources

##### 2. Associated Institution Types

- 1890 Extension
- 1890 Research

##### 3a. Outcome Type:

Change in Knowledge Outcome Measure

##### 3b. Quantitative Outcome

Year	Actual
2015	85

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

###### **Issue (Who cares and Why)**

The target audience for the STEAM Science Education program activities were students grades K-12 in the underserved areas of the Black Belt, primarily in Lowndes, Bullock, Barbour, Macon and Wilcox counties.

This target audience has a need for the development, nurturing and enhancement of science and technology. There is a cycle of poverty that can be broken with new opportunities and experiences. There are areas where prospects and resources are limited and there is a recognized need for sources of supplemental enrichment in STEM education, preparation for the future. Parents and stakeholders take an interest in the future of the youth in these areas

###### **What has been done**

Direct instruction, demonstrations, shared activities, leadership activities, mentorships have been provided. We had science fairs, fertilized eggs, planting and harvesting activities, career development discussions. Envirobowl and scholar bowl students became more aware of environmental science, biology, chemistry and Alabama related agriculture issues by studying materials for competition under the leadership of partner sponsors

###### **Results**



Tuskegee Research and Extension - 85 youth used the arts to demonstrate increased knowledge related to blueberries, fertilized eggs and raised gardens through the creation of original books, graphic organizers, videos, letters and drawings.

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
806	Youth Development

**Outcome #29**

**1. Outcome Measures**

The number of K-12 youth from the Black Belt who increased math skills (problem solving, logical reasoning, and other mathematics skills)

**2. Associated Institution Types**

- 1890 Extension
- 1890 Research

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2015	380

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

**Issue (Who cares and Why)**

The target audience for the STEAM Science Education program activities were students grades K-12 in the underserved areas of the Black Belt, primarily in Lowndes, Bullock, Barbour, Macon and Wilcox counties.

This target audience has a need for the development, nurturing and enhancement of and science and technology. There is a cycle of poverty that can be broken with new opportunities and experiences. There are areas where prospects and resources are limited and there is a recognized need for sources of supplemental enrichment in STEM education, preparation for the future. Parents and stakeholders take an interest in the future of the youth in these areas

**What has been done**

Direct instruction, demonstrations, shared activities, leadership activities, mentorships have been provided. We had science fairs, fertilized eggs, planting and harvesting activities , career development discussions. Envirobowl and scholar bowl students became more aware of environmental science, biology, chemistry and Alabama related agriculture issues by studying materials for competition under the leadership of partner sponsors

**Results**

Tuskegee Research and Extension- 380 students experienced improvement in problem-solving, logical reasoning and other mathematics skills as a result of mathematics tutorials in the Mathematics Infusion Center.

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
806	Youth Development

**Outcome #30**

**1. Outcome Measures**

The number of K-12 students from the Black Belt who demonstrated the capacity to conduct research

**2. Associated Institution Types**

- 1890 Extension
- 1890 Research

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

Year	Actual
2015	6

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

**Issue (Who cares and Why)**

The target audience for the STEM Science Education program activities were students grades K-12 in the underserved areas of the Black Belt, primarily in Lowndes, Bullock, Barbour, Macon and Wilcox counties.

This target audience has a need for the development, nurturing and enhancement of and science and technology. There is a cycle of poverty that can be broken with new opportunities and experiences. There are areas where prospects and resources are limited and there is a recognized need for sources of supplemental enrichment in STEM education, preparation for the future. Parents and stakeholders take an interest in the future of the youth in these areas

**What has been done**

Direct instruction, demonstrations, shared activities, leadership activities, mentorships have been provided. We had science fairs, fertilized eggs, planting and harvesting activities , career development discussions. Envirobowl and scholar bowl students became more aware of environmental science, biology, chemistry and Alabama related agriculture issues by studying

materials for competition under the leadership of partner sponsors

**Results**

Tuskegee Research and Extension- Six high school students earned internships as a result of their stellar achievement and outstanding placement in the K-12 ag-related science fair. Their projects had to be related to any of the research in CAENS. Students were strategically placed with researchers whose work was relative to the students projects.

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
802	Human Development and Family Well-Being

**Outcome #31**

**1. Outcome Measures**

The number of K-12 students from the Black Belt who increased leadership skills

**2. Associated Institution Types**

- 1890 Extension
- 1890 Research

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2015	40

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

**Issue (Who cares and Why)**

The target audience for the STEM Science Education program activities were students grades K-12 in the underserved areas of the Black Belt, primarily in Lowndes, Bullock, Barbour, Macon and Wilcox counties.

This target audience has a need for the development, nurturing and enhancement of and science and technology. There is a cycle of poverty that can be broken with new opportunities and experiences. There are areas where prospects and resources are limited and there is a recognized need for sources of supplemental enrichment in STEM education, preparation for the future. Parents and stakeholders take an

**What has been done**

Direct instruction, demonstrations, shared activities, leadership activities, mentorships have been provided. We had science fairs, fertilized eggs, planting and harvesting activities , career

development discussions. Envirobowl and scholar bowl students became more aware of environmental science, biology, chemistry and Alabama related agriculture issues by studying materials for competition under the leadership of partner sponsors.

**Results**

Tuskegee Research and Extension - As a result of participation in 4H Camp, 40 students showed an increase in leadership skills, making important decisions and taking responsibility for self and others.

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
806	Youth Development

**Outcome #32**

**1. Outcome Measures**

The number of K-12 youth from the Black Belt who increased in knowledge of scientific method

**2. Associated Institution Types**

- 1890 Extension
- 1890 Research

**3a. Outcome Type:**

Change in Knowledge Outcome Measure

**3b. Quantitative Outcome**

Year	Actual
2015	150

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

**Issue (Who cares and Why)**

The target audience for the STEM Science Education program activities were students grades K-12 in the underserved areas of the Black Belt, primarily in Lowndes, Bullock, Barbour, Macon and Wilcox counties.

This target audience has a need for the development, nurturing and enhancement of and science and technology. There is a cycle of poverty that can be broken with new opportunities and experiences. There are areas where prospects and resources are limited and there is a recognized need for sources of supplemental enrichment in STEM education, preparation for the future. Parents and stakeholders take an interest in the future of the youth in these areas

**What has been done**

Direct instruction, demonstrations, shared activities, leadership activities, mentorships have been provided. We had science fairs, fertilized eggs, planting and harvesting activities , career development discussions. Envirobowl and scholar bowl students became more aware of environmental science, biology, chemistry and Alabama related agriculture issues by studying materials for competition under the leadership of partner sponsors.

**Results**

Tuskegee Research and Extension- As a result of the lessons taught on the scientific method for science projects, 150 students showed a marked increase in their knowledge of the scientific method.

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
806	Youth Development

**Outcome #33**

**1. Outcome Measures**

Number of K-12 students from the Black Belt who demonstrate increased knowledge of the importance of water and other natural resources

**2. Associated Institution Types**

- 1890 Extension
- 1890 Research

**3a. Outcome Type:**

Change in Knowledge Outcome Measure

**3b. Quantitative Outcome**

Year	Actual
2015	60

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

**Issue (Who cares and Why)**

The target audience for the STEM Science Education program activities were students grades K-12 in the underserved areas of the Black Belt, primarily in Lowndes, Bullock, Barbour, Macon and Wilcox counties.

This target audience has a need for the development, nurturing and enhancement of and science and technology. There is a cycle of poverty that can be broken with new opportunities and experiences. There are areas where prospects and resources are limited and there is a recognized need for sources of supplemental enrichment in STEM education, preparation for the

future. Parents and stakeholders take an interest in the future of the youth in these areas

**What has been done**

Direct instruction, demonstrations, shared activities, leadership activities, mentorships have been provided. We had science fairs, fertilized eggs, planting and harvesting activities , career development discussions. Envirobowl and scholar bowl students became more aware of environmental science, biology, chemistry and Alabama related agriculture issues by studying materials for competition under the leadership of partner sponsors.

**Results**

Tuskegee Research and Extension - 60 participants in SMART Camp demonstrated an increase in their knowledge of the importance, functions and sources of water in our daily lives using pre and post evaluations.

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
806	Youth Development

**Outcome #34**

**1. Outcome Measures**

Number of 4 and 5 grade Black Belt students who adopted best management practices for animal care of fertilized eggs and baby chicks

**2. Associated Institution Types**

- 1890 Extension
- 1890 Research

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

Year	Actual
2015	200

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

**Issue (Who cares and Why)**

The target audience for the STEM Science Education program activities were students grades K-12 in the underserved areas of the Black Belt, primarily in Lowndes, Bullock, Barbour, Macon and Wilcox counties.

This target audience has a need for the development, nurturing and enhancement of and science and technology. There is a cycle of poverty that can be broken with new opportunities and experiences. There are areas where prospects and resources are limited and there is a

recognized need for sources of supplemental enrichment in STEM education, preparation for the future. Parents and stakeholders take an interest in the future of the youth in these areas

**What has been done**

Direct instruction, demonstrations, shared activities, leadership activities, mentorships have been provided. We had science fairs, fertilized eggs, planting and harvesting activities , career development discussions. Envirobowl and scholar bowl students became more aware of environmental science, biology, chemistry and Alabama related agriculture issues by studying materials for competition under the leadership of partner sponsors.

**Results**

Tuskegee Research and Extension- 90 fertilized eggs and two incubators were set up for participants grades 4-5. Youth demonstrated adoption of best management practices by monitoring temperatures, water levels and recording the hatching process. Youth documented steps in the process by collecting data through graphic organizers, essays, and photographs .

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
806	Youth Development

**Outcome #35**

**1. Outcome Measures**

The number of K-12 youth from the Black Belt who increased agricultural skills through school gardens

**2. Associated Institution Types**

- 1890 Extension
- 1890 Research

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

Year	Actual
2015	200

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

**Issue (Who cares and Why)**

The target audience for the STEAM Science Education program activities were students grades K-12 in the underserved areas of the Black Belt, primarily in Lowndes, Bullock, Barbour, Macon

and Wilcox counties. This target audience has a need for the development, nurturing and enhancement of science and technology. There is a cycle of poverty that can be broken with new opportunities and experiences. There are areas where prospects and resources are limited and there is a recognized need for sources of supplemental enrichment in STEM education, preparation for the future. Parents and stakeholders take an interest in the future of the youth in these areas

**What has been done**

Direct instruction, demonstrations, shared activities, leadership activities, mentorships have been provided. We had science fairs, fertilized eggs, planting and harvesting activities , career development discussions. Envirobowl and scholar bowl students became more aware of environmental science, biology, chemistry and Alabama related agriculture issues by studying materials for competition under the leadership of partner sponsors.

**Results**

Tuskegee Research and Extension - As a result of participation in activities, 4H clubs, science fairs and internships, at least twenty students have expressed in surveys their interests in pursuing ag-related careers. As a result of the placement of youth gardens in local schools, the youth participation in gardening has increased to over 200. A school garden competition was held at the local Farmers Market of the 200 students 60 entered the school garden competition. The grand prize was garden equipment.

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
806	Youth Development

**Outcome #36**

**1. Outcome Measures**

The number of National Youth Science Day students who increased STEM skills through hands on rocket building

**2. Associated Institution Types**

- 1890 Extension
- 1890 Research

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

Year	Actual
2015	167



### 3c. Qualitative Outcome or Impact Statement

#### Issue (Who cares and Why)

Today's youth are falling behind other countries in the fields of science, technology, engineering and math. However, participation in high-quality positive youth development programs like 4-H NYSD offers youth and adults the opportunity to engage in scientific exploration and work together to build the next generation of our nation's scientists, engineers and mathematicians. The national rallying event for 4-H Science, 4-H NYSD is an interactive learning experience that gets youth excited about science, technology, engineering and mathematics (STEM), and spotlights the many ways millions of youth are engaging in 4-H Science programs year-round. Additionally, the event will bring together youth and adult volunteers that foster partnerships in order to address future problems as they arise.

#### What has been done

Over 3500 youth ages 8 to 16 from schools in Macon, Bullock, Montgomery and Lowndes Counties conducted the Rockets to the Rescue experiment as part of 4-H National Youth Science Day (NYSD), the world's largest youth-led science experiment. A series of workshops including afterschool programs and summer camps were held for program participants leading to the 4-H NYSD event. The event challenged youth in grades 4th-12th to use aerospace engineering to solve a global crisis. Additionally, it combined two 4-H issue areas science and food security and incorporated aerospace engineering concepts to help youth design a rocket out of everyday materials, including recyclable two-liter bottles, cotton balls, pipe cleaners, rubber bands and a protractor.

#### Results

The 167 registered student competitors gained knowledge on group presentation and learnt how to communicate scientific terms and skills to their peers. Also, they had hands-on experience in designing and building of diverse designed rockets based on judging criteria. Following the oral presentation of the engineering designed rockets, each group had the opportunity to launch their rockets from the mainland zone to the hungry population zone while over 400 youth watched the outstanding performance. Awards were presented to all participating schools and winning contestants. Booker T. Washington High School won 1st and 2nd places while the 3rd place was awarded to Bullock County High School.

### 4. Associated Knowledge Areas

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

### Outcome #37

#### 1. Outcome Measures

The number of NYSD participants who increased life skills (citizenship, health, and leadership) through science

#### 2. Associated Institution Types

- 1890 Extension
- 1890 Research

**3a. Outcome Type:**

Change in Knowledge Outcome Measure

**3b. Quantitative Outcome**

Year	Actual
2015	0

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

**Issue (Who cares and Why)**

The need for science, engineering, and technology education is essential for today's young people. 4-H programs prepare youth for the challenges of the 21st century by engaging them in a process of discovery and exploration.

**What has been done**

Youth in middle and high school ages 8 to 16 years in underserved populations were prepared through a series of training exercises and after-school programs towards the 2016 NYSD. These trainings were led by adult volunteers and/or mentors to provide guidance to students and enable them practice the experiments designed for their research projects. Students who successfully completed their projects participate in the National Youth Science Day event.

**Results**

Tuskegee Research and Extension

The post-program survey of all participating contestants showed 98% (8-12) graders and 92% (4-7) graders had positive response towards learning how things are made or invented. As a result of participating in this program 96% (8-12) graders and 92% (4-7) graders) strongly agreed to the desire for further experimenting and/or testing new ideas. 84% (8-12) graders and 88% (4-7) graders indicated they liked science; while 85% (8-12) graders and 89% (4-7) graders want to learn more about science. Whereas 83% of 8-12 graders think that science is important to their future, a majority (88%) accept that science is useful in solving everyday problems. Sixty-nine (69) percent of 8-12 graders are confident they can create a display to communicate scientific data and observations to their audiences

**4. Associated Knowledge Areas**

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

**Outcome #38**

**1. Outcome Measures**

Number of TU Youth Development Leadership participants who increased knowledge of life skills

**2. Associated Institution Types**

- 1890 Extension
- 1890 Research

**3a. Outcome Type:**

Change in Knowledge Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2015	161

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

**Issue (Who cares and Why)**

Changing demographics of the America population also call for volunteers to serve communities through service providers. Nonprofit organizations providing service to the aging population, communities hit with disaster, or communities plague with social problems require volunteers and majority of people offer free time to provide their expertise in these areas. This program recruits and trains interested youth and adults in tenets of positive youth development to work closely with youth and their families to lead healthy and productive lifestyles.

**What has been done**

This is an on-going volunteer training program that is open to interested youth and adults across the state of Alabama. One hundred thirty-one (131) teen leaders and thirty (30) adult volunteers registered and were given access to enroll and take four online training modules focusing on:

- \* The purpose, philosophy and participation in 4-H
- \* Youth development - essential elements of youth development, ages and stages of youth development, and vibrant youth groups
- \* Getting started - preparations prior to, during, and after 4-H club meetings/activities
- \* Leadership/Teaching - leading, planning and teaching.

**Results**

Tuskegee Research and Extension -All registered participants that enrolled received certificate of completion for each of the modules.

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
802	Human Development and Family Well-Being
806	Youth Development

### **Outcome #39**

#### **1. Outcome Measures**

Number of TU Youth Development Leadership participants who increased leadership skills

#### **2. Associated Institution Types**

- 1890 Extension
- 1890 Research

#### **3a. Outcome Type:**

Change in Action Outcome Measure

#### **3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2015	131

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

##### **Issue (Who cares and Why)**

Today's youth are experiencing serious health conditions that were known to be common among adult populations. These conditions include childhood obesity, Type II diabetes, high cholesterol and high blood pressure to name a few. Some reasons for these circumstances are that youth are becoming too sedentary and/or are consuming unhealthy foods and snacks in particular. Using teens as agents of change could impact the life-styles of their peers and family members.

##### **What has been done**

In all ninety-five (95) 4-H ambassadors (trained teen teachers) participated in Teen Leadership training to reach and educate their peers on how to make healthier life choices. Twenty-five (25) of these students organized and developed video commercials as marketing tools to promote healthy lifestyles among youth and families most especially, among their peers. Through the guidance of a videographer and media consultant, the teen teachers recorded and presented excerpts and exhibits of their video production to students in the elementary and middle schools. The topics covered were: a) making wise food choices; b) increase physical activities; c) stop texting and driving; d) drugs and alcohol prevention; e) avoid drinking and driving; and f) bullying prevention.

##### **Results**

Tuskegee Research and Extension - The interactions between the program participants and the way the 4-H ambassadors engaged the students from kindergarten to middle schools were impressive and successful. The goal of the health fair was to provide education and community

resources for the students, adults, and their community as a whole. At one of the program implementation sites, a program staff shared two moments that seemed to stand out at the health fair. This was when a student of a middle school won a bicycle. The mother of this student said: "you don't know how this is going to change his life. I just can't put into words how much this means to us." The second event was when every person that attended was served a healthy and nutritious lunch. The attendees commented on how good the food was and how eating healthy isn't that bad after all. The goal of promoting healthy living to the youth and their families was obviously by witnessing the mothers, fathers, and children who visited the various booths to gather health related information. They were observed participating in events that various exhibitors hosted, gathering pamphlets and informative hand-outs, and talking to community resource personnel and staff.

#### 4. Associated Knowledge Areas

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

#### Outcome #40

##### 1. Outcome Measures

The number of TU SNAP-Ed students who increased healthy behaviors

##### 2. Associated Institution Types

- 1890 Extension
- 1890 Research

##### 3a. Outcome Type:

Change in Action Outcome Measure

##### 3b. Quantitative Outcome

Year	Actual
2015	131

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

###### **Issue (Who cares and Why)**

In the state of Alabama, 18.6% of children (10-17 years) are overweight or obese. Though the causes of childhood obesity are multifaceted, overweight in adolescents are generally linked to lack of physical activity and unhealthy eating patterns. Using teens as teachers, this program focused on underserved, disadvantaged youth and their families often receiving supplemental food assistance from government or private programs.

###### **What has been done**

A series of Healthy Living Day and/or Summer Camps titled: "Be Healthy, Be Active" were held at various sites to raise awareness and educate youth on obesity prevention with focus on nutrition education, meal preparation, physical fitness, and gardening. One hundred and thirty-one (131) youth comprising of 59% females and 41% males, ages 14 through 17 (grades 9-12) were trained and equipped with the needed skills that will help them serve as change agents in their homes and communities. Participating youth were engaged in planning their daily food intake using dietary guidelines to prepare healthy meal menus. The youth continued with physical activity sports (i.e. soccer) serving as means of encouraging fitness and team-building.

### Results

Tuskegee Research and Extension -Pre-and posttest assessments of some behaviors and leadership traits of the teen teachers showed the following: Thirty-three percent self-reported being physically active two days or less per week. Over a third (37.5%) spent three or more hours watching television. However, sixty-two percent played video games or used computers for non-school related activities two hours or less per day. Paired t-test comparison of selected participants skills before and six months after receiving training showed statistically significant improvement in caring, critical thinking, decision-making, and self-efficacy for healthy eating skills. Seventy percent improved their skills in decision-making; 65 percent in critical thinking, and 63 percent in self-efficacy for healthy eating. A majority of the participants indicated that the training changed their perception about eating healthy foods and making healthier food choices. Youth were also equipped with lessons that enhanced their teaching skills to become role models among their peers and younger children.

### 4. Associated Knowledge Areas

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

### Outcome #41

#### 1. Outcome Measures

Number of PREP participants who develop Life-skills

#### 2. Associated Institution Types

- 1862 Extension

#### 3a. Outcome Type:

Change in Action Outcome Measure

#### 3b. Quantitative Outcome

Year	Actual
2015	200

### 3c. Qualitative Outcome or Impact Statement

#### Issue (Who cares and Why)

Family financial stability is essential for vibrant communities and state economic vitality. In Alabama, many families struggle to achieve economic stability due to unemployment or low-wage employment. In 2014 the state's poverty rate was 19%, unemployment 5.3%, underemployment 25.2% and over 500,000 underemployed workers pursued better jobs. A statewide survey of employers indicated difficulty finding suitable candidates for positions. Lack of relevant work experience and technical skills, poor attitude, poor attendance history, lack of soft skills and failed drug screenings were reasons for candidate rejection. Worker demand will continue to exceed the supply in the future. This project provides career preparation training to equip jobseekers to conduct a successful job search that leads to employment.

#### What has been done

Thirteen Regional Extension Agents taught a 4-lesson career preparation series focused on: filling out job applications, preparing a resume, job interview skills and professional dress. This included 167 activities and 5,059 contacts. Agents collaborated with diverse community partners to implement the series. Two specialists conducted two in-service trainings for Extension staff.

#### Results

200 participants indicated that they know how to make their resume more appealing to potential employers.

### 4. Associated Knowledge Areas

KA Code	Knowledge Area
801	Individual and Family Resource Management
802	Human Development and Family Well-Being

#### Outcome #42

##### 1. Outcome Measures

The number of PREP participants who increase financial management knowledge

##### 2. Associated Institution Types

- 1862 Extension

##### 3a. Outcome Type:

Change in Knowledge Outcome Measure

##### 3b. Quantitative Outcome

Year	Actual
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### 3c. Qualitative Outcome or Impact Statement

#### Issue (Who cares and Why)

Youth financial literacy is an important issue in Alabama and nationally. Pre-teens and teens regularly make financial choices on their own, have access to credit and debit cards, receive money from various sources, experience financial fraud and exert considerable influence in family financial decisions. Further, financial management skills are fundamental life skills needed to manage successfully in the real world. Financial education helps youth to understand money and how it can impact their lives. Financial education helps youth to understand money and how it can impact their lives and equips them to practice good money management habits that lead to strong families and vibrant communities in the future.

#### What has been done

Eight Extension educators conducted 91 Reality Check simulations for 11,146 young people, 13 to 20 years of age. Activities also involved 1,142 adult volunteers. Agents collaborated with diverse community partners to implement the activity.

#### Results

- 23.3% understand the importance of making smart money decisions
- 25.9% understand the difference between wants and needs
- 28.4% understand the importance of saving
- 22.3% understand the link between education and careers
- 23.2% understand the link between income and lifestyle choices

### 4. Associated Knowledge Areas

KA Code	Knowledge Area
801	Individual and Family Resource Management

#### Outcome #43

##### 1. Outcome Measures

Number of Making Money County participants who increased financial management knowledge

##### 2. Associated Institution Types

- 1890 Extension

##### 3a. Outcome Type:

Change in Knowledge Outcome Measure



### 3b. Quantitative Outcome

Year	Actual
2015	527

### 3c. Qualitative Outcome or Impact Statement

#### Issue (Who cares and Why)

American consumers owe approximately \$11.85 trillion in debt of which \$918.5 billion is credit card debit (Chen, 2015). In 2015, 911,086 bankruptcy filings were processed (United States Courts, 2015). In addition to sinking in debt, in 2013 nearly 9.6 million households were unbanked and 24.8 million were underbanked those with a bank account but use alternative financial services such as payday loans title loans, etc. The State of Alabama ranks second among the fifty states in most bankruptcy filings per capita (Seale, 2015) and it has 26.4% of its citizens underbanked and 9.2% unbanked (Cole, 2014)

#### What has been done

Fourteen Regional Agents (Rural and Urban) utilized workshops, classes, and software training sessions to increase individuals, especially limited-resource individuals, awareness and knowledge of the impact of decision-making on personal and family finance, utilization of spending plans, techniques and strategies used by alternative credit sources, credit reports, and banking. The Making Money Count Curriculum was implemented as a series of four lessons or as single stand-alone lessons in all 67 counties including urban areas.

#### Results

A&M Extension - Based on pretest and posttest results, the knowledge of 527 participants increased significantly regarding how to:

- a) maintain a checking account (t=10.46, p=.00)
- b) maintain a saving account (t=15.40, p=.00)
- c) compare interest rates to find the best rates (t=21.19, p=.00)
- d) request their credit report (t=30.79, p=.00)
- e) calculate their family debt load (t=29.25, p=.00)
- f) keep accurate records of their bank accounts (t=15.94, p=.00)
- g) use the decision making process (t=19.31, p=.00)
- h) deliberately generate a list of options when making major financial decisions (t=20.39, p=.00)
- i) gather quality information before making major decisions (t=17.19, p=.00)
- j) include their children in family conversations about money (t=23.27, p=.00)
- k) make financial decisions less impulsively and more deliberately (t=20.80, p=.00)
- l) write out their financial goals (t=26.70, p=.00)
- m) track their spending (t=23.59, p=.00)
- n) maintain a written spending plan (t=29.51, p=.00)
- o) include saving within their spending plan (t=26.78, p=.00)
- p) plan ahead for large yearly expenses (t=26.76, p=.00)
- q) use debt management software (t=33.91, p=.00)
- r) use POWERPAY techniques in helping to manage/eliminate debt (t=36.09, p=.00)

## 4. Associated Knowledge Areas

**KA Code**    **Knowledge Area**  
801            Individual and Family Resource Management

**Outcome #44**

**1. Outcome Measures**

The number of Making Money County participants who increase financial management skills

**2. Associated Institution Types**

- 1890 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2015	250

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

**Issue (Who cares and Why)**

American consumers owe approximately \$11.85 trillion in debt of which \$918.5 billion is credit card debit (Chen, 2015). In 2015, 911,086 bankruptcy filings were processed (United States Courts, 2015). In addition to sinking in debt, in 2013 nearly 9.6 million households were unbanked and 24.8 million were underbanked those with a bank account but use alternative financial services such as payday loans title loans, etc. The State of Alabama ranks second among the fifty states in most bankruptcy filings per capita (Seale, 2015) and it has 26.4% of its citizens underbanked and 9.2% unbanked (Cole, 2014)

**What has been done**

Fourteen Regional Agents (Rural and Urban) utilized workshops, classes, and software training sessions to increase individuals', especially limited-resource individuals, awareness and knowledge of the impact of decision-making on personal and family finance, utilization of spending plans, techniques and strategies used by alternative credit sources, credit reports, and banking. The Making Money Count Curriculum was implemented as a series of four lessons or as single stand-alone lessons in all 67 counties including urban areas.

**Results**

Alabama A&M Extension -After approximately one to three months after participating in the program (n=250),

- 76% made financial decisions less impulsively and more deliberately
- 71% used a spending plan
- 60% tracked their spending plan

- 58% found ways to reduce their expenses by an average of \$48 per month
- 79% had a saving account
- 80% had a checking account
- 51 % used debt management software

1,221 participants requested their credit reports for the very first time.

#### 4. Associated Knowledge Areas

KA Code	Knowledge Area
801	Individual and Family Resource Management

#### Outcome #45

##### 1. Outcome Measures

Number of FACES participants who increased knowledge related to family strengthening

##### 2. Associated Institution Types

- 1890 Extension

##### 3a. Outcome Type:

Change in Knowledge Outcome Measure

##### 3b. Quantitative Outcome

Year	Actual
2015	1873

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

###### **Issue (Who cares and Why)**

A direct relationship between the well-being of children, families and communities has been cited by various professionals and organizations. When families are strong and do well, children do well. Likewise, when communities are strong, families are strong. Critical for all families are those attributes that strengthen individuals as well as the family itself.

###### **What has been done**

Six Urban Regional Agents and two Regional Agents utilized workshops, conferences, fairs and family day celebrations to increase individuals and families understanding of how to effectively communicate, resolve conflict, manage stress and identify spending habits. The Family Advocacy through Caring Engagement Strategies, a family strengthening curriculum, was implemented as a series of five lessons or as a stand-alone program in urban areas of 12 counties.

###### **Results**

- Alabama A&M Extension- Based on pretest and posttest results, the knowledge of 250 participants increased significantly regarding:
- a)how to actively listen (t=4.61, p=.00)
  - b)how their nonverbal communication affects their verbal communication (t=7.98, p=.00)
  - c)the communication process (t=7.02, p=.00)
  - d) ways to strengthen their family (t=5.20, p=.00)
  - e)effects of stress on the body (t=7.30, p=.00)
  - f)the ripple effect of stress in relationships (t=8.83, p=.00)
  - g)signs and symptoms of stress (t=6.94, p=.00)
  - h)techniques for managing stress (t=9.04, p=.00)
  - i)how to identify the things that stress them (t=4.59, p=.00)
  - j)appropriate methods for handling conflicts (t=6.20, p=.00)
  - k)how to resolve family conflicts without anyone feeling hurt or unheard (t=3.63, p=.00)
  - l)how to use negotiation skills (t=4.39, p=.00)

#### 4. Associated Knowledge Areas

<b>KA Code</b>	<b>Knowledge Area</b>
802	Human Development and Family Well-Being

#### Outcome #46

##### 1. Outcome Measures

The number of FACES participants who maintained strong family relationships

##### 2. Associated Institution Types

- 1890 Extension

##### 3a. Outcome Type:

Change in Action Outcome Measure

##### 3b. Quantitative Outcome

Year	Actual
2015	157

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

###### **Issue (Who cares and Why)**

A direct relationship between the well-being of children, families and communities has been cited by various professionals and organizations. When families are strong and do well, children do well. Likewise, when communities are strong, families are strong. Critical for all families are those attributes that strengthen individuals as well as the family itself.

### What has been done

Six Urban Regional Agents and two Regional Agents utilized workshops, conferences, fairs and family day celebrations to increase individuals and families understanding of how to effectively communicate, resolve conflict, manage stress and identify spending habits. The Family Advocacy through Caring Engagement Strategies, a family strengthening curriculum, was implemented as a series of five lessons or as a stand-alone program in urban areas of 12 counties.

### Results

Alabama A&M Extension- On average, 3-4 months after participating in the program, frequency of the following actions of 157 participants significantly increased:

- a) maintained traditions and rituals in their family (t=2.42, p=.02)
- b) have open discussions with family members to share personal feelings and thoughts (t=3.38, p=.01)
- c) resolve family conflicts without anyone feeling hurt or unheard (t=4.46, p=.00)
- d) avoid name calling, complaining, bringing up the past and doing other such behaviors when dealing with conflict (t=12.98, p=.00)
- e) practice stress management techniques (t=3.05, p=.01)
- f) look for signs of stress in family members (t=4.94, p=.00)
- g) have a written family budget/spending plan that they pay close attention to (t=3.56, p=.01)
- h) consider their financial goals before making most financial decisions (t=5.21, p=.00)

## 4. Associated Knowledge Areas

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

### Outcome #47

#### 1. Outcome Measures

Number of SAI participants who develop increased knowledge of successful aging

#### 2. Associated Institution Types

- 1890 Extension

#### 3a. Outcome Type:

Change in Knowledge Outcome Measure

#### 3b. Quantitative Outcome

Year	Actual
2015	166

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

**Issue (Who cares and Why)**

The elderly population in the United States is rapidly expanding. One out of every seven Americans (35 million) is over the age of 65. With the aging of the baby boomers, America's older population will double by 2030 (71.5 million), and will account for 19.6 percent (about 1 in 5) of the population. It is not uncommon for people, as they age, to be concerned about what the future will bring and whether they will be equipped to meet the challenges that lie ahead.

**What has been done**

The Seniors Can curriculum, a wellness program for older adults developed by the University of Nevada Cooperative Extension System, was used as an educational resource and guide. Additionally, An Overview of Elder Law, a Gift for Your Family, and LegalEASE publications, and Estate Planning Basics, A Guide to Life Organization were used. The program was implemented by use of classes, workshops, seminars, family day programs, conferences, support groups, etc.

**Results**

Alabama A&M Extension Based on pretest and posttest results, the knowledge of 166 participants increased significantly relative to:

- a)the occurrence of cross-contamination due to placing certain food items in same shopping bags (t=3.76, p=.00).
- b)the occurrence of cross-contamination due to placing certain food items upon each other in shopping carts (t=3.74, p=.00).
- c)the occurrence of cross-contamination relative to cracked eggs (t=5.58, p=.00).
- d)food safety relative to the use of marinades and food coatings (t=2.14, p=.04).
- e)food safety relative to the proper use and cleanliness of chopping boards (t=3.79, p=.00).
- f)food safety relative to transporting food purchases (t=2.00, p=.05).
- g)food safety relative to thawing/defrosting of food items (t=3.65, p=.00).

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
802	Human Development and Family Well-Being

**Outcome #48**

**1. Outcome Measures**

Number of SAI participants who increased financial planning skills

**2. Associated Institution Types**

- 1890 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

### 3b. Quantitative Outcome

Year	Actual
2015	166

### 3c. Qualitative Outcome or Impact Statement

#### Issue (Who cares and Why)

The Seniors Can curriculum, a wellness program for older adults developed by the University of Nevada Cooperative Extension System, was used as an educational resource and guide. Additionally, An Overview of Elder Law, a Gift for Your Family, and LegalEASE publications, and Estate Planning Basics, A Guide to Life Organization were used. The program was implemented by use of classes, workshops, seminars, family day programs, conferences, support groups, etc.

#### What has been done

This program focused on the specific needs of older adults. Resources such as the Senior Can Curriculum, An Overview of Elder Law, Estate Planning Basics, and Legal Ease were utilized in conducting this program. The major topics were estate planning, health care literacy, Alzheimer and Dementia, Wills and Powers of Attorney, Advance Directives, caring for the caregiver, and navigating senior services.

#### Results

Alabama A&M Extension -Based on pretest and posttest results, the knowledge of 166 participants increased significantly relative to:

- a)different ways (at least 5) to cut cost on prescription medication (t=3.50, p=.01).
- b)different ways (at least 5) to cut cost on food (t=4.02, p=.00).
- c)different ways (at least 5) to cut cost on entertainment (t=5.72, p=.00).
- d)different ways (at least 5) to cut cost on educational opportunities (t=6.94, p=.00).
- e)various local resources (at least 5) for paid work for older adults (t=7.15, p=.00).
- f)various opportunities (at least 5) for older adults to do volunteer services (t=8.54, p=.00).
- g)various educational opportunities (at least 5) for older adults (t=6.94, p=.00).
- h)different agencies/organizations that can help older adults with legal issues (t=7.06, p=.00).
- i)different agencies/organizations that can help older adults with home expenses (t=9.62, p=.00).
- j)different agencies/organizations that can help older adults with the cost of medicines(t=10.52, p=.00).
- k)different agencies/organizations that can help older adults with food purchases (t=9.39, p=.00).

### 4. Associated Knowledge Areas

KA Code	Knowledge Area
801	Individual and Family Resource Management
802	Human Development and Family Well-Being

**Outcome #49**

**1. Outcome Measures**

Number of Family Child Care Partnership participants who improved application of child development best practices

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

Year	Actual
2015	123

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

**Issue (Who cares and Why)**

A total of 7,952 training hours were credited to providers as a result of their active participation in one-on-one mentoring sessions. These documented training hours assisted each provider to meet State re-licensure requirements.

**What has been done**

FCCP conducted a total of 3,922 one-on-one, in-home mentoring sessions (on a weekly, biweekly, or monthly basis) with 185 licensed family child care providers and 90 group home assistants.

**Results**

A standardized assessment tool is used to assess changes in behavior, i.e., the Family Child Care Environment Rating Scale (FCCERS) was used. (We follow an IRB-approved protocol for informed consent and data collection and protection.) Paired samples t-tests for 123 providers who had data measuring change from 2014 to 2015 indicated statistically significant ( $p < .00$ ) improvements in overall quality and the following 5 sub-categories of child care practices: (a) learning activities; (b) provider-child interaction; (c) program structure; (d) personal care routines; and (e) listening/talking.

**4. Associated Knowledge Areas**

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



**Outcome #50**

**1. Outcome Measures**

The number of Family Child Partnership providers who have established accredited family based child facilities

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2015	53

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

**Issue (Who cares and Why)**

A total of 7,952 training hours were credited to providers as a result of their active participation in one-on-one mentoring sessions. These documented training hours assisted each provider to meet State re-licensure requirements.

**What has been done**

FCCP conducted a total of 3,922 one-on-one, in-home mentoring sessions (on a weekly, biweekly, or monthly basis) with 185 licensed family child care providers and 90 group home assistants.

**Results**

53 of 173 FCCP providers who are actively pursuing national accreditation continue providing accreditation -level child care practices and/or were newly accredited or re-accredited.

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
802	Human Development and Family Well-Being

**Outcome #51**

**1. Outcome Measures**

The number of people who increased knowledge of environmental literacy efforts

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Knowledge Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2015	74

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

**Issue (Who cares and Why)**

There is a need for increased environmental literacy which has been defined as the capacity to perceive and interpret the relative health of environmental systems and take appropriate action to maintain, restore, or improve the health of those systems (Disinger and Roth).

**What has been done**

The 4-H Alabama Water Watch Program increases environmental literacy by building capacity in volunteers and educators to provide youth with an increased awareness and understanding of watershed issues and tools that cultivate the critical thinking skills students need to identify problems related to water quality and to develop solutions for such problems.

Exploring Our Living Streams is a hands-on, aquatic science curriculum that is used to teach students about the water environment, water pollution, stream ecology, and how to conduct Alabama Water Watch stream biomonitoring that uses benthic macroinvertebrates as pollution indicators.

**Results**

A major goal of the 4-H Alabama Water Watch Program is to provide adults with training that will prepare them to deliver watershed and water monitoring educational activities to youth. In 2015, 74 adults were trained to utilize the Exploring Our Living Streams curriculum during three separate workshops. Participants completed a survey regarding knowledge gained and their overall experience. 100% of the participants agreed that they learned something new about the sources and effects of water pollution and that they gained understanding regarding how aquatic macroinvertebrates play a role in water quality monitoring.

#### 4. Associated Knowledge Areas

KA Code	Knowledge Area
806	Youth Development

#### Outcome #52

##### 1. Outcome Measures

Number of data records submitted by 4-H AWW groups as a result of implementation of water resource programming

##### 2. Associated Institution Types

- 1862 Extension

##### 3a. Outcome Type:

Change in Knowledge Outcome Measure

##### 3b. Quantitative Outcome

Year	Actual
2015	30

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

###### **Issue (Who cares and Why)**

The role of citizen science in conservation and natural resource management is becoming increasingly important as it provides local perspectives, data, and participatory action to scientific efforts. As students engage in water monitoring activities they are able to interpret the health of local waterbodies, and then to draw conclusions and offer solutions that will contribute to the maintenance and restoration of the local watershed.

###### **What has been done**

4-H Alabama Water Watch has enlisted adult volunteers and youth participants to engage in water resource programming within a positive youth development framework through the 4-H delivery modes. Participating groups have taken necessary steps to become trained in water monitoring activities and applied their skills in the field.

###### **Results**

4-H Alabama Water Watch groups have collected and submitted 30-water data records to the Alabama Water Watch, consisting of water chemistry (air temperature, water temperature, dissolved oxygen, pH, alkalinity, hardness, turbidity, salinity, and Secchi disk visibility) and bacteriological (E. coli per 100 milliliters of water) monitoring data from local waterways throughout the state.

#### 4. Associated Knowledge Areas

**KA Code**    **Knowledge Area**  
806           Youth Development

**Outcome #53**

**1. Outcome Measures**

The number adults who increased skills related to shooting sports safety

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2015	93

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

**Issue (Who cares and Why)**

There is a great demand for 4-H Shooting Sports programs throughout AL, and the need for program support in the form of Coach Training, and assistance with resource development.

**What has been done**

Six shooting sports disciplines have been managed and further developed in support of demand from citizens of Alabama and within a positive youth development framework. Coaches have become certified and volunteers trained to teach youth to practice safe firearms handling, responsible firearms ownership, historic and civic roles of firearms owners in society, and the role of hunting as a research-based wildlife management tool.

These programs have been delivered in club settings, state and national competitions, and special events.

**Results**

93 adult coaches in 8 counties were trained in 12-hour 4-H SAFE Coach certifications. According to participant survey data, the trained individuals indicated that they experienced an improvement in knowledge and had become confident in their ability to instruct youth in a classroom and range setting regarding firearms and archery safety.

**4. Associated Knowledge Areas**

**KA Code**    **Knowledge Area**  
806           Youth Development

**Outcome #54**

**1. Outcome Measures**

The number of youth who increased knowledge of forestry and wildlife sciences

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Knowledge Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2015	170

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

**Issue (Who cares and Why)**

Natural Resources and Environmental Education special event programming involves working with local, regional, and state partners to broaden programmatic reach and meet the goals of increasing awareness of Alabama's natural resources, conservation applications, and workforce development.

**What has been done**

Special event programming that was delivered statewide in 2015 includes forestry, wildlife, and outdoor recreation events. The 4-H Forestry program gives members a strong understanding of trees, forest management and environmental issues. It also provides hands on learning experiences that helps individuals develop skills to become better managers of forested land. The state Forestry Invitational attracted over 125 youth, coaches, and families to Oak Mtn. State Park; and the state Wildlife Habitat Education Program (WHEP) Contest attracted over 75 youth, coaches, and families to Auburn University. Alabama hosted the 26th Annual National Wildlife Habitat Education Program Contest for the first time in over 20-years, and attracted 60 youth and coaches from 14-states.

**Results**

170 youth were trained in forestry and wildlife sciences and competed in research-based forestry and wildlife contests that promote stewardship and best management practices.

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
806	Youth Development

**Outcome #55**

**1. Outcome Measures**

Number of participants who increase knowledge related to healthy relationship

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Knowledge Outcome Measure

**3b. Quantitative Outcome**

Year	Actual
2015	2793

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

**Issue (Who cares and Why)**

The research is clear: unhealthy marriages and family instability threaten the physical, social, and emotional well-being of adults and children and are related to economic and community instability. Unfortunately, in Alabama we know this all too well. Alabama has a persistent history of high levels of marital and family instability and individuals and families face barriers to economic self-sufficiency. Because of this, Alabama's children face tremendous risks to their healthy development and well-being.

**What has been done**

Both quantitative and qualitative responses collected on post-program surveys from 2793 adult participants in relationship education convey very positive responses to the educational program. Many report enhanced communication within the family and more stable relationships. They also report better role modeling of healthy relationship skills for their children and report better relationships in the workplace.

**Results**

Based on repeated measures analysis of variance conducted on multi-item indicators, statistically significant ( $p < .05$ ) improvement was documented for the following knowledge outcome measures for the broad population of participants: knowledge of effective self-care skills  
knowledge of effective financial management skills domestic violence awareness (signs and strategies for seeking help) understanding of significant other child maltreatment awareness (signs and strategies for help-seeking) understanding of coparent knowledge of effective communication skills knowledge of conflict management skills  
Moderation analyses reveal similar gains in knowledge regardless of gender, race, age, relationship status, and socio-economic status.

#### 4. Associated Knowledge Areas

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

#### Outcome #56

##### 1. Outcome Measures

The number of adults who increased healthy relationship skills

##### 2. Associated Institution Types

- 1862 Extension

##### 3a. Outcome Type:

Change in Action Outcome Measure

##### 3b. Quantitative Outcome

Year	Actual
2015	2793

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

###### **Issue (Who cares and Why)**

The research is clear: unhealthy marriages and family instability threaten the physical, social, and emotional well-being of adults and children and are related to economic and community instability. Unfortunately, in Alabama we know this all too well. Alabama has a persistent history of high levels of marital and family instability and individuals and families face barriers to economic self-sufficiency. Because of this, Alabama's children face tremendous risks to their healthy development and well-being.

###### **What has been done**

Both quantitative and qualitative responses collected on post-program surveys from 2793 adult participants in relationship education convey very positive responses to the educational program. Many report enhanced communication within the family and more stable relationships. They also report better role modeling of healthy relationship skills for their children and report better relationships in the workplace.

###### **Results**

Based on repeated measures analysis of covariance conducted on multi-item indicators, statistically significant ( $p < .05$ ) improvement was documented for the following change in action/behavior outcome measures for the broad population of adult participants:

- use of self-care and positive health behaviors;
- use of effective financial management skills;
- use of effective conflict management skills;
- use of caring behaviors toward significant other;

use of caring behaviors towards coparent;  
use of positive parenting practices;  
increased parental involvement.

Moderation analyses reveal similar gains in knowledge regardless of gender, race, age, relationship status, and socio-economic status.

**4. Associated Knowledge Areas**

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

**Outcome #57**

**1. Outcome Measures**

The number of adults who maintained healthy relationships

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

Year	Actual
2015	2793

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

**Issue (Who cares and Why)**

The research is clear: unhealthy marriages and family instability threaten the physical, social, and emotional well-being of adults and children and are related to economic and community instability. Unfortunately, in Alabama we know this all too well. Alabama has a persistent history of high levels of marital and family instability and individuals and families face barriers to economic self-sufficiency. Because of this, Alabama's children face tremendous risks to their healthy development and well-being.

**What has been done**

Both quantitative and qualitative responses collected on post-program surveys from 2793 adult participants in relationship education convey very positive responses to the educational program. Many report enhanced communication within the family and more stable relationships. They also report better role modeling of healthy relationship skills for their children and report better relationships in the workplace.

**Results**



Based on repeated measures analysis of variance conducted on multi-item indicators, statistically significant ( $p < .05$ ) improvement were found for the following condition outcome measures:

depressive symptoms;

physical health;

sleep quality;

connections to social support;

couple quality;

coparenting quality;

parenting quality;

kindergarten readiness for program participants' children.

Moderation analyses reveal similar gains in knowledge regardless of gender, race, age, relationship status, and socio-economic status.

#### 4. Associated Knowledge Areas

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

#### Outcome #58

##### 1. Outcome Measures

The number of youth who increase knowledge related to healthy relationships

##### 2. Associated Institution Types

- 1862 Extension

##### 3a. Outcome Type:

Change in Knowledge Outcome Measure

##### 3b. Quantitative Outcome

Year	Actual
2015	3611

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

###### **Issue (Who cares and Why)**

There is a higher proportion of youth at-risk for unhealthy relationships in Alabama, since young people's behaviors in relationships often mirror those of the adult relationships they observe in their families and divorce rates tend to be higher among young adults whose parents divorced. Alarming, Alabama youth also have some of the highest rates of dating violence in the country (CDC, 2010). Relational patterns acquired during adolescence tend to predict behaviors in later adult family and work relationships, indicating a pressing need for relationship education for youth.

### **What has been done**

Both quantitative and qualitative responses collected on post-program surveys from over 3611 youth RE participants convey very positive responses to the educational program. Many report enhanced communication in dating relationships, within the family, and among their peers. They also report more efficacy regarding good decision-making about relationships and their future goals.

### **Results**

Based on repeated measures analysis of variance conducted on multi-item indicators, statistically significant ( $p < .05$ ) improvement was documented for the following knowledge outcome measures for the broad population of youth participants:

- Dating Relationship Functioning
  - Dating Violence Awareness
  - Understanding of Significant Other
  - Realistic/healthy relationship beliefs
- Parent-Child Relationship Functioning
  - Understanding of Parent
- Peer Relationship Functioning
  - Understanding of Peers

Moderation analyses reveal similar gains in knowledge regardless of gender, race, age, relationship status, and socio-economic status.

## **4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
802	Human Development and Family Well-Being

### **Outcome #59**

#### **1. Outcome Measures**

The number of youth who increased healthy relationship skills

#### **2. Associated Institution Types**

- 1862 Extension

#### **3a. Outcome Type:**

Change in Action Outcome Measure

#### **3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2015	3611

### 3c. Qualitative Outcome or Impact Statement

#### Issue (Who cares and Why)

There is a higher proportion of youth at-risk for unhealthy relationships in Alabama, since young people's behaviors in relationships often mirror those of the adult relationships they observe in their families and divorce rates tend to be higher among young adults whose parents divorced. Alarming, Alabama youth also have some of the highest rates of dating violence in the country (CDC, 2010). Relational patterns acquired during adolescence tend to predict behaviors in later adult family and work relationships, indicating a pressing need for relationship education for youth.

#### What has been done

Both quantitative and qualitative responses collected on post-program surveys from over 3611 youth RE participants convey very positive responses to the educational program. Many report enhanced communication in dating relationships, within the family, and among their peers. They also report more efficacy regarding good decision-making about relationships and their future goals.

#### Results

Based on repeated measures analysis of covariance conducted on multi-item indicators, statistically significant ( $p < .05$ ) improvement was documented for the following change in action/behavior outcome measures for the broad population of youth participants:

- use of self-care and positive health behaviors;
- use of help-seeking skills
- use of effective financial management skills;
- use of effective conflict management skills;
- use of positive communication skills
- use of self-disclosure
- use of reflective coping skills
- use of caring behaviors toward significant other;
- use of caring behaviors towards parent;
- use of caring behavior toward peers

### 4. Associated Knowledge Areas

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

### Outcome #60

#### 1. Outcome Measures

The number of youth who maintained healthy relationships

#### 2. Associated Institution Types

- 1862 Extension

### 3a. Outcome Type:

Change in Condition Outcome Measure

### 3b. Quantitative Outcome

Year	Actual
2015	3611

### 3c. Qualitative Outcome or Impact Statement

#### Issue (Who cares and Why)

There is a higher proportion of youth at-risk for unhealthy relationships in Alabama, since young people's behaviors in relationships often mirror those of the adult relationships they observe in their families and divorce rates tend to be higher among young adults whose parents divorced. Alarming, Alabama youth also have some of the highest rates of dating violence in the country (CDC, 2010). Relational patterns acquired during adolescence tend to predict behaviors in later adult family and work relationships, indicating a pressing need for relationship education for youth.

#### What has been done

Both quantitative and qualitative responses collected on post-program surveys from over 3611 youth RE participants convey very positive responses to the educational program. Many report enhanced communication in dating relationships, within the family, and among their peers. They also report more efficacy regarding good decision-making about relationships and their future goals.

#### Results

Based on repeated measures analysis of variance conducted on multi-item indicators, statistically significant ( $p < .05$ ) improvement was documented for the following condition outcome measures for youth participants:

stress level;  
depressive symptoms;  
connections to social support;  
individual empowerment;  
commitment to healthy relationship with significant other;  
commitment to healthy relationship with parent(s);  
commitment to healthy relationship with peers

Moderation analyses reveal similar gains in knowledge regardless of gender, race, age, relationship status, and socio-economic status.

## 4. Associated Knowledge Areas

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

**Outcome #61**

**1. Outcome Measures**

Number of AU SCP participants who increased quality of parent child relationships

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Knowledge Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2015	34

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

**Issue (Who cares and Why)**

Alabama ranked 47th in the 2010 Annie E. Casey Kids Count report. The report indicates that our high school graduation rate is 62%, 13% below the national average. Our youth also experience school failure and dropout rates that remain unacceptably high (The Southern Education Foundation, 2007). Across Alabama, youth are at high risk for engaging in drug/alcohol use. In 2006-2007, 24.8% of 12-20 year-olds consumed alcohol and 15.2% did binge drinking in the past month (Century Council). Delinquent behaviors have been linked to diverse negative outcomes in adulthood, including unemployment, school dropout, criminal behavior, and mental health problems. Adolescents with more positive feeling toward school (e.g., enjoy school, feel connected to classmates and teachers) are less likely to engage in delinquent behaviors.

**What has been done**

An evidence-based program was selected and taught in two of the three schools. The schools agreed to the program and selected teachers (staff) to attend an 8-hr training to facilitate the program. The evidence-based program selected for each school was designed to prevent, reduce or eliminate negative behaviors and promote positive behaviors. The in-school program was implemented in each school over a 14 week period. The students attended each session for one hour. The evidence-based Strengthening Families Program (10-14 year of age) was implemented over a 7-week period in each community. The program had three sections: one for the 6th graders, one for the parents, and one for the family to come together to end the session. The facilitators were trained on the curriculum. Pre/Post test completed for evaluation.

**Results**

With 34 of the 42 parents completing the Common Measure Survey as a CYFAR (funder)

requirement, the sample sizes are small that it leads to caution in stating statistical significance. Parents were asked to respond to: My Child and I have warm, intimate moments together, I express affection, I respect my child's opinion and encourage him/her to express it, and I praise my child. For the in-school program for the youth 116 of 225 completed the survey. Grades: No significant differences in average reported grades for students in Wilson Hall. East Lawrence (t = 1.99, p = .05) there was a significant decrease in reported grades. CLOSE TO AT LEAST ONE TEACHER: Wilson Hall (t = 2.59, p < .05), there were significant declines in student reports of feeling close to at least one teacher while at East Lawrence (t = -2.33, p < .05), there were significant increases. PARENTS KNOW WHERE I AM AFTER SCHOOL: There were no significant changes across time in participants reports of whether or not their parents knew where they were after school.

#### 4. Associated Knowledge Areas

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

#### Outcome #62

##### 1. Outcome Measures

Number of PROSPER participants who increased positive behavior

##### 2. Associated Institution Types

- 1862 Extension

##### 3a. Outcome Type:

Change in Knowledge Outcome Measure

##### 3b. Quantitative Outcome

Year	Actual
2015	404

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

###### **Issue (Who cares and Why)**

Alabama ranked 47th in the 2010 Annie E. Casey Kids Count report. The report indicates that our high school graduation rate is 62%, 13% below the national average. Our youth also experience school failure and dropout rates that remain unacceptably high (The Southern Education Foundation, 2007). Across Alabama, youth are at high risk for engaging in drug/alcohol use. In 2006-2007, 24.8% of 12-20 year-olds consumed alcohol and 15.2% did binge drinking in the past month (Century Council). Delinquent behaviors have been linked to diverse negative outcomes in adulthood, including unemployment, school dropout, criminal behavior, and mental health

problems. Adolescents with more positive feeling toward school (e.g., enjoy school, feel connected to classmates and teachers) are less likely to engage in delinquent behaviors.

**What has been done**

An evidence-based program was selected to be taught in the schools. The schools agreed to the program and selected teachers (staff) to attend an 8-hr training to facilitate the program. The evidence-based program selected for each school was designed to prevent, reduce or eliminate negative behaviors and promote positive behaviors. The program focuses on teaching children different life skills such as: bonding to social institutions, provides tools to youth to make decisions and understand the consequences, goal setting, impulse control, and to make decisions relative to using drugs or reducing the use of drugs. The in-school program was implemented in each school over a 14 week period. The students attended each session for one hour. Students participate in a pre and post survey to measure knowledge gained.

**Results**

Of the 404 who completed the All Stars program, 190 were males and 206 females. Those who received permission from a parental consent participated in completing the pre and post surveys. Select items will be reported for each school: Close to at least one teacher: There were no significant pre and post test differences in average at any of the Prosper sites with pre and post test data for 2015; Parents Know Where I Am after School: Participants at Abbeville (t = 3.37;p <.01), Ashford (t = 4.41,p =<.001) , and Thomasville (t = 2.99,p <.01) all reported declines in how much they agreed that their parents know where they are after school between pre and post test. There were no differences for Opp. \*\*\* This is probably a developmentally normative findings as kids get older parents know less about their whereabouts; GRADES:There were no significant pre and post test differences in average reported grades for students in Abbeville and Opp. For students in Ashford (t = -2.23,p < .05), there was a significant increase in reported grades from pre to post test while for Thomasville (t = 2.77, p <.01) there was significant decline in reported grades.

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
802	Human Development and Family Well-Being
806	Youth Development

**Outcome #63**

**1. Outcome Measures**

The number of PROSPER participants who decreased risky behavior

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

Year	Actual
2015	404

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

**Issue (Who cares and Why)**

Alabama ranked 47th in the 2010 Annie E. Casey Kids Count report. The report indicates that our high school graduation rate is 62%, 13% below the national average. Our youth also experience school failure and dropout rates that remain unacceptably high (The Southern Education Foundation, 2007). Across Alabama, youth are at high risk for engaging in drug/alcohol use. In 2006-2007, 24.8% of 12-20 year-olds consumed alcohol and 15.2% did binge drinking in the past month (Century Council). Delinquent behaviors have been linked to diverse negative outcomes in adulthood, including unemployment, school dropout, criminal behavior, and mental health problems. Adolescents with more positive feeling toward school (e.g., enjoy school, feel connected to classmates and teachers) are less likely to engage in delinquent behaviors.

**What has been done**

An evidence-based program was selected to be taught in the schools. The schools agreed to the program and selected teachers (staff) to attend an 8-hr training to facilitate the program. The evidence-based program selected for each school was designed to prevent, reduce or eliminate negative behaviors and promote positive behaviors. The program focuses on teaching children different life skills such as: bonding to social institutions, provides tools to youth to make decisions and understand the consequences, goal setting, impulse control, and to make decisions relative to using drugs or reducing the use of drugs. The in-school program was implemented in each school over a 14 week period. The students attended each session for one hour. Students participate in a pre and post survey to measure knowledge gained.

**Results**

Talk with Parents About Things: Participants at Ashford ( $t = 2.72, p < .01$ ) and Thomasville ( $t = 2.55, p < .05$ ) reported declines in how much they talked with their parents about things between pre and post test. No differences for Abbeville or Opp. BEAT UP SOMEONE BECAUSE MADE YOU ANGRY: Participants at Abbeville ( $t = -2.49, p < .05$ ) reported higher levels of beating someone up because that made them angry from pre to post test while Thomasville ( $t = 3.01, p < .01$ ) reported declines in this behavior. Ashford and Opp did not differ from pre to post test.

**4. Associated Knowledge Areas**

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



**Outcome #64**

**1. Outcome Measures**

The number of Elmore County youth who developed leadership skills

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

Year	Actual
2015	14

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

**Issue (Who cares and Why)**

The vision of Youth Leadership Elmore County is to develop youth as future leaders and advocates of democracy and the American Dream. Youth Leadership is designed to address the need for future qualified and experienced leaders.

**What has been done**

Participants gained leadership and life skills as they participated in interactive monthly learning sessions and practiced team building exercises. All the students gained invaluable insight into practical leadership application through their community service projects. They learned the importance of organization, time management, prioritizing tasks, communication, responsibility, and working together to achieve a common goal as well as empathy for others. Through their projects they developed a sense of empowerment - the belief that they can make a difference in their communities.

**Results**

Youth gained knowledge about: leadership theories and concepts; characteristics and behaviors of proven and effective leaders; the communication process; positive aspects of conflict; individual styles for managing conflict and how to identify ways to manage conflict; ways to manage stress; steps in the decision-making process; group decision-making; conducting a community assessment; addressing problems identified in a community assessment; exercising community leadership; how to write an effective resume; conducting an effective meeting; and how local and State government works.

**4. Associated Knowledge Areas**

**KA Code    Knowledge Area**

806 Youth Development

### **Outcome #65**

#### **1. Outcome Measures**

Number of participants who increased knowledge related to STEM

#### **2. Associated Institution Types**

- 1862 Extension

#### **3a. Outcome Type:**

Change in Knowledge Outcome Measure

#### **3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2015	3352

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

##### **Issue (Who cares and Why)**

STEM Education is critical for the U.S.'s economic future. We need to encourage more students to pursue science, technology, and math.

##### **What has been done**

3352 youth have engaged in 4-HInnovators an Alabama 4-H initiative to engage youth in STEM experiences that develop scientific principles to support their development into college and career ready young adults.

##### **Results**

Expanded knowledge about the types of engineers and opportunities for STEM careers.

#### **4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
806	Youth Development

**Outcome #66**

**1. Outcome Measures**

The number of 4Hi participants who increased the ability to follow design protocols

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2015	3352

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

**Issue (Who cares and Why)**

STEM Education is critical for the U.S.'s economic future. We need to encourage more students to pursue science, technology, and math.

**What has been done**

3352 youth have engaged in 4-HInnovators an Alabama 4-H initiative to engage youth in STEM experiences that develop scientific principles to support their development into college and career ready young adults.

**Results**

When assigned a challenge, based upon criteria and constraints, youth can design a tool to solve a problem, test the tool, revise tool design for improvement and retest.

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
806	Youth Development

**Outcome #67**

**1. Outcome Measures**

The number of 4Hi youth who increased interest in STEM careers

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Knowledge Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2015	1176

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

**Issue (Who cares and Why)**

STEM Education is critical for the U.S.'s economic future. We need to encourage more students to pursue science, technology, and math.

**What has been done**

3352 youth have engaged in 4-HInnovators an Alabama 4-H initiative to engage youth in STEM experiences that develop scientific principles to support their development into college and career ready young adults.

**Results**

Over half of the participant population expressed greater interest in taking math and science courses.

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
806	Youth Development

**Outcome #68**

**1. Outcome Measures**

The number of 4H volunteers who increase volunteerism subject matter expertise

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Knowledge Outcome Measure

**3b. Quantitative Outcome**

Year	Actual
2015	1004

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

**Issue (Who cares and Why)**

Professional level 4-H employees are in short supply and high demand. Utilization of 4-H volunteers increases impact potential and help reach new audience with unique programming opportunities and a wide variety of subject matter expertise.

**What has been done**

1004 on-line training modules were successfully completed by volunteers in 2014. 7 on-line training module topics were offered for 4-H Volunteer professional development in 4HOnline including Welcome to Alabama 4-H, Adult Behavioral Guidelines, Ages and Stages of Youth Development, Discipline Planning, First Aid and Safety, Risk Management and ACES 4-H Is For Everyone. Online training modules save staff travel and professional time as well as allow for training flexibility of 4-H volunteers. An additional 40 4-H Volunteer training and management resources are housed online at [www.Alabama4h.com](http://www.Alabama4h.com) - For Volunteers

**Results**

100% of participants demonstrated subject matter knowledge gain in order to progress through the individual modules and complete the training through interactive activities and quizzes. 100% subject matter gain in: Welcome to Alabama 4-H, Adult Behavioral Guidelines, Ages and Stages of Youth Development, Discipline Planning, First Aid and Safety, Risk Management and ACES 4-H Is For Everyone

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
806	Youth Development

**Outcome #69**

**1. Outcome Measures**

Number of participants who increased knowledge of risky sexual behaviors

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Knowledge Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2015	186

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

**Issue (Who cares and Why)**

The issues addressed by TGIF Teen Leaders were adolescent pregnancy, STDs, and healthy relationships. Issues were addressed in a medically accurate, age appropriate manner utilizing research based curriculum. TGIF Teen Leaders then took their knowledge, skills, and abilities from training and delivered it to middle school students. Using a peer mentor model with sensitive topics such as these is thought to be more effective. Youth development is addressed in how the teen leaders are trained to be good citizens through service projects, exemplary leaders through utilizing effective teaching techniques, class management skills, and public speaking. Family well being is addressed by setting goals for the future and reducing teen pregnancy. This has long and short term social, economic, and health benefits.

**What has been done**

TGIF Teen Leaders were taught Assertiveness training, establishing personal boundaries, effective communication skills, and learned to identify unhealthy relationships during their training. Teen Leaders were given knowledge on STDs, and the unhealthy influence of drugs and alcohol. Conditions changes were strived for by increasing confidence, self-esteem, and commitment. To address actions, students should be able to communicate, problem solve, and respond appropriately to peer pressure at the end of the program.

**Results**

Participants (n=186) surveyed indicated an increase of knowledge of STDs, HIV/AIDS, and the influences of drugs and alcohol on decision making abilities. Before the program 126 participants rated their knowledge as good or excellent. After the program 176 rated their knowledge as good or excellent.

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
806	Youth Development

## **Outcome #70**

### **1. Outcome Measures**

The number of TGIF youth who increased communication skills

### **2. Associated Institution Types**

- 1862 Extension

### **3a. Outcome Type:**

Change in Action Outcome Measure

### **3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2015	186

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

#### **Issue (Who cares and Why)**

The issues addressed by TGIF Teen Leaders were adolescent pregnancy, STDs, and healthy relationships. Issues were addressed in a medically accurate, age appropriate manner utilizing research based curriculum. TGIF Teen Leaders then took their knowledge, skills, and abilities from training and delivered it to middle school students. Using a peer mentor model with sensitive topics such as these is thought to be more effective. Youth development is addressed in how the teen leaders are trained to be good citizens through service projects, exemplary leaders through utilizing effective teaching techniques, class management skills, and public speaking. Family well being is addressed by setting goals for the future and reducing teen pregnancy. This has long and short term social, economic, and health benefits.

#### **What has been done**

TGIF Teen Leaders were taught Assertiveness training, establishing personal boundaries, effective communication skills, and learned to identify unhealthy relationships during their training. Teen Leaders were given knowledge on STDs, and the unhealthy influence of drugs and alcohol. Conditions changes were strived for by increasing confidence, self-esteem, and commitment. To address actions, students should be able to communicate, problem solve, and respond appropriately to peer pressure at the end of the program.

#### **Results**

Participants (n=186) surveyed indicated an increase in their ability to effectively communicate to a group.

Before the program 111 participants rated their ability as good or excellent.

After the program 176 rated their ability as good or excellent

### **4. Associated Knowledge Areas**

**KA Code**    **Knowledge Area**  
806            Youth Development

**Outcome #71**

**1. Outcome Measures**

The number of TGIF youth who increase commitment to abstinence

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2015	186

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

**Issue (Who cares and Why)**

The issues addressed by TGIF Teen Leaders were adolescent pregnancy, STDs, and healthy relationships. Issues were addressed in a medically accurate, age appropriate manner utilizing research based curriculum. TGIF Teen Leaders then took their knowledge, skills, and abilities from training and delivered it to middle school students. Using a peer mentor model with sensitive topics such as these is thought to be more effective. Youth development is addressed in how the teen leaders are trained to be good citizens through service projects, exemplary leaders through utilizing effective teaching techniques, class management skills, and public speaking. Family well being is addressed by setting goals for the future and reducing teen pregnancy. This has long and short term social, economic, and health benefits.

**What has been done**

TGIF Teen Leaders were taught Assertiveness training, establishing personal boundaries, effective communication skills, and learned to identify unhealthy relationships during their training. Teen Leaders were given knowledge on STDs, and the unhealthy influence of drugs and alcohol. Conditions changes were strived for by increasing confidence, self-esteem, and commitment. To address actions, students should be able to communicate, problem solve, and respond appropriately to peer pressure at the end of the program.

**Results**

Participants (n=186) surveyed indicated a condition change in their level of commitment to being a good role model.

Before the program 135 participants rated their commitment level as good or excellent.

After the program 175 rated their commitment level as good or excellent.



#### 4. Associated Knowledge Areas

KA Code	Knowledge Area
806	Youth Development

#### Outcome #72

##### 1. Outcome Measures

Number of TGIF participants who develop lifeskills

##### 2. Associated Institution Types

- 1862 Extension

##### 3a. Outcome Type:

Change in Knowledge Outcome Measure

##### 3b. Quantitative Outcome

Year	Actual
2015	382

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

###### **Issue (Who cares and Why)**

The issues addressed by TGIF participants were adolescent pregnancy, STDs, and healthy relationships. Issues were addressed in a medically accurate, age appropriate manner utilizing research based curriculum. The curricula was delivered by trained facilitators and TGIF Teen (peer mentors). Using a peer mentor model with sensitive topics such as these is thought to be more effective. Youth development is addressed in how participants are invited to be good citizens through service projects, discovering one's personal values, and understanding relationships. This has long and short term social, economic, and health benefits.

###### **What has been done**

TGIF Participants were taught Assertiveness training, establishing personal boundaries, effective communication skills, and learned to identify unhealthy relationships during their training. Abuse awareness was also an integral part of the curriculum. Participants were given knowledge on healthy boundaries and influential/respectful relationships. Conditions changes were strived for by increasing awareness of good communication, abuse, and healthy vs. unhealthy relationships. To address actions, students were able to work through conflict, recognize unhealthy relationship practices, and effectively deal with peer pressure.

###### **Results**

Participants (n=382) surveyed indicated a change in knowledge in understanding the dynamics of relationships and the effect their parents' relationships affect their children.

Before the program 287 participants rated their understanding as good or excellent.

After the program 327 rated their understanding as good or excellent.

#### 4. Associated Knowledge Areas

KA Code	Knowledge Area
806	Youth Development

#### Outcome #73

##### 1. Outcome Measures

The number of TGIF youth who increased their ability to differentiate healthy and unhealthy relationships

##### 2. Associated Institution Types

- 1862 Extension

##### 3a. Outcome Type:

Change in Knowledge Outcome Measure

##### 3b. Quantitative Outcome

Year	Actual
2015	382

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

###### **Issue (Who cares and Why)**

The issues addressed by TGIF participants were adolescent pregnancy, STDs, and healthy relationships. Issues were addressed in a medically accurate, age appropriate manner utilizing research based curriculum. The curricula was delivered by trained facilitators and TGIF Teen (peer mentors). Using a peer mentor model with sensitive topics such as these is thought to be more effective. Youth development is addressed in how participants are invited to be good citizens through service projects, discovering one's personal values, and understanding relationships. This has long and short term social, economic, and health benefits.

###### **What has been done**

TGIF Participants were taught Assertiveness training, establishing personal boundaries, effective communication skills, and learned to identify unhealthy relationships during their training. Abuse awareness was also an integral part of the curriculum. Participants were given knowledge on healthy boundaries and influential/respectful relationships. Conditions changes were strived for by increasing awareness of good communication, abuse, and healthy vs. unhealthy relationships. To address actions, students were able to work through conflict, recognize unhealthy relationship practices, and effectively deal with peer pressure.

###### **Results**

Participants (n=382) surveyed indicated a change in abilities to recognize healthy and unhealthy relationship practices.

Before the program 252 participants rated their ability to recognize as good or excellent.

After the program 312 rated their ability to recognize as good or excellent.

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
806	Youth Development

**Outcome #74**

**1. Outcome Measures**

The number of TGIF youth who increased their ability to recognize different types of abuse (physical and emotional)

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Knowledge Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2015	382

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

**Issue (Who cares and Why)**

The issues addressed by TGIF participants were adolescent pregnancy, STDs, and healthy relationships. Issues were addressed in a medically accurate, age appropriate manner utilizing research based curriculum. The curricula was delivered by trained facilitators and TGIF Teen (peer mentors). Using a peer mentor model with sensitive topics such as these is thought to be more effective. Youth development is addressed in how participants are invited to be good citizens through service projects, discovering one's personal values, and understanding relationships. This has long and short term social, economic, and health benefits.

**What has been done**

TGIF Participants were taught Assertiveness training, establishing personal boundaries, effective communication skills, and learned to identify unhealthy relationships during their training. Abuse awareness was also an integral part of the curriculum. Participants were given knowledge on healthy boundaries and influential/respectful relationships. Conditions changes were strived for by increasing awareness of good communication, abuse, and healthy vs. unhealthy relationships. To address actions, students were able to work through conflict, recognize unhealthy relationship practices, and effectively deal with peer pressure.

**Results**

Participants (n=382) surveyed indicated a condition change in their level of awareness in types of abuse.

Before the program 274 participants rated their awareness level as good or excellent.

After the program 332 rated their awareness level as good or excellent.

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
806	Youth Development

**Outcome #75**

**1. Outcome Measures**

Number of participants who increased decision making skills as a result of youth leadership

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Knowledge Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2015	639

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

**Issue (Who cares and Why)**

4-H members that participated in a leadership roles in his or her 4-H program had an opportunity to gain knowledge in leadership skills. The youth were surveyed on their ability to cooperate with other youth, problem solving, and decision making. These leadership skills allow the youth to gain knowledge in workforce development, people skills, and team work.

**What has been done**

The youth were asked a variety of qualitative questions that allowed them to see if their action had increased or stayed the same in different leadership areas.

**Results**

731 youth leaders were surveyed on their change in knowledge after they participated in a leadership role in 4-H. Out of the 731 youth 639 ( high and very high) youth used the leadership information presented in the 4-H to help them make better decisions

**4. Associated Knowledge Areas**

**KA Code**    **Knowledge Area**  
806            Youth Development

**Outcome #76**

**1. Outcome Measures**

The number of youth who increased collaborative behaviors through youth leadership

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2015	585

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

**Issue (Who cares and Why)**

4-H members that participated in a leadership roles in his or her 4-H program had an opportunity to gain knowledge in leadership skills. The youth were surveyed on their ability to cooperate with other youth, problem solving, and decision making. These leadership skills allow the youth to gain knowledge in workforce development, people skills, and team work.

**What has been done**

The youth were asked a variety of qualitative questions that allowed them to see if their action had increased or stayed the same in different leadership areas.

**Results**

Working together and cooperating are very important leadership skills in any leadership role. 731 youth were asked if their ability to cooperate with other youth had increased or stayed the same after participating in a 4-H leadership role. 585 of the youths ability to cooperate with other youth increased while in a 4-H leadership role.

**4. Associated Knowledge Areas**

**KA Code**    **Knowledge Area**  
806            Youth Development

**Outcome #77**

**1. Outcome Measures**

The number of youth who increased problem solving skills through youth leadership

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2015	599

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

**Issue (Who cares and Why)**

4-H members that participated in a leadership roles in his or her 4-H program had an opportunity to gain knowledge in leadership skills. The youth were surveyed on their ability to cooperate with other youth, problem solving, and decision making. These leadership skills allow the youth to gain knowledge in workforce development, people skills, and team work.

**What has been done**

The youth were asked a variety of qualitative questions that allowed them to see if their action had increased or stayed the same in different leadership areas.

**Results**

731 youth were surveyed on their ability to work with others to solve problems. Out of the 731 youth 599 youth feel that their ability to work with others to solve problems has increased due to their participation in a 4-H leadership role.

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
806	Youth Development

**Outcome #78**

**1. Outcome Measures**

Number of Urban volunteers who increased knowledge of computer skills

**2. Associated Institution Types**

- 1890 Extension

**3a. Outcome Type:**

Change in Knowledge Outcome Measure

**3b. Quantitative Outcome**

Year	Actual
2015	19

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

**Issue (Who cares and Why)**

Volunteers are a vital asset to ACES and they play an integral role in planning, implementing, and enhancing Urban Program outreach efforts.

**What has been done**

Networking opportunities were provided through the VIP and AAMU Service Learning program. 1506 students and VIPs provided a combined total of over 40,000 clock hours which equated to a monetary value of over 930,000 dollars in financial savings to the agency.

**Results**

Alabama A&M - Increased knowledge of ACES and Urban Affairs and New Nontraditional Programs Unit; volunteers became better leaders and use the skills to improve their community; Increased knowledge of basic technical, office, and computer skills; improved knowledge of volunteer opportunities with the community. Volunteers' comments to question: "What specific skills did you gain from being a volunteer?"

I learned how to eat healthy and correct portion sizes.

I learned how to prepare simple snacks and meals in a healthier and more efficient manner

I gained knowledge of different foods and their nutritional value.

I learned some leadership skills working with the Urban volunteer program.

I learned how to communicate with farmers better.

I learned how to work with young and old farmers.

I learned how to present in front of people and to overcome my nerves.

I learned how to work with children.

I have broadened my knowledge of health and risk and objectives.

As a result volunteering, I have become more involved with projects and programs within my own community.

#### 4. Associated Knowledge Areas

KA Code	Knowledge Area
806	Youth Development

#### Outcome #79

##### 1. Outcome Measures

Number of participants who gain knowledge about substance use

##### 2. Associated Institution Types

- 1890 Extension

##### 3a. Outcome Type:

Change in Knowledge Outcome Measure

##### 3b. Quantitative Outcome

Year	Actual
2015	3343

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

###### **Issue (Who cares and Why)**

The number of middle school age youth involved with illicit drugs, alcohol, and tobacco usage is soaring.

###### **What has been done**

A total of 4131 youth that participated in the 4-H Health Rocks series program. Each of the 4131, completed a minimum of 10 hours of educational training. A total of fifty-one (48) sites were organized across the state for program implementation. These sites included local school systems, after-school care centers, summer programs, Boys and Girls Clubs, and faith-based institutions. Additionally, to the seven urban youth agents, 00 youth and adult volunteers provided instructional and leadership support for the 4-H Health Rocks! Program.

###### **Results**

Alabama A&M Extension evaluation data showed that program participants had an increased knowledge of the negative effects of drug usage. After participating in the program, over 96% of youth participants demonstrated social competency, volunteerism, self-confidence and strong values. After training, 96% (N=3343) of the youth showed an increase in knowledge about health effects of smoking compared to 85% before training.

#### 4. Associated Knowledge Areas

KA Code	Knowledge Area
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### **Outcome #80**

#### **1. Outcome Measures**

The number of Health Rocks participants who set goals for themselves

#### **2. Associated Institution Types**

- 1890 Extension

#### **3a. Outcome Type:**

Change in Action Outcome Measure

#### **3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2015	3269

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

##### **Issue (Who cares and Why)**

The number of middle school age youth involved with illicit drugs, alcohol, and tobacco usage is soaring.

##### **What has been done**

A total of 4131 youth that participated in the 4-H Health Rocks series program. Each of the 4131, completed a minimum of 10 hours of educational training. A total of fifty-one (48) sites were organized across the state for program implementation. These sites included local school systems, after-school care centers, summer programs, Boys and Girls Clubs, and faith-based institutions. Additionally, to the seven urban youth agents, 00 youth and adult volunteers provided instructional and leadership support for the 4-H Health Rocks! Program.

##### **Results**

Alabama A&M Extension After training 96.4% of youth had goals for themselves compared to 89.3% prior to training t-test 20.64\*\*\* p<.001 (N=3269).

#### **4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
806	Youth Development

**Outcome #81**

**1. Outcome Measures**

The number of Health Rocks youth who increased future orientation skills.

**2. Associated Institution Types**

- 1890 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

Year	Actual
2015	3280

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

**Issue (Who cares and Why)**

The number of middle school age youth involved with illicit drugs, alcohol, and tobacco usage is soaring.

**What has been done**

A total of 4131 youth that participated in the 4-H Health Rocks series program. Each of the 4131, completed a minimum of 10 hours of educational training. A total of fifty-one (48) sites were organized across the state for program implementation. These sites included local school systems, after-school care centers, summer programs, Boys and Girls Clubs, and faith-based institutions. Additionally, to the seven urban youth agents, 00 youth and adult volunteers provided instructional and leadership support for the 4-H Health Rocks! Program.

**Results**

Alabama A&M Extension After training 97.5% of youth indicated the need to think about how their choices will affect their future compared to 90.6% t-test 21.88\*\*\* p<.001 (N=3280).

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
806	Youth Development

**Outcome #82**

**1. Outcome Measures**

The number of Health Rocks youth who increased their ability to take focused on learning at school

**2. Associated Institution Types**

- 1890 Extension

**3a. Outcome Type:**

Change in Knowledge Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2015	3267

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

**Issue (Who cares and Why)**

The number of middle school age youth involved with illicit drugs, alcohol, and tobacco usage is soaring.

**What has been done**

A total of 4131 youth that participated in the 4-H Health Rocks series program. Each of the 4131, completed a minimum of 10 hours of educational training. A total of fifty-one (48) sites were organized across the state for program implementation. These sites included local school systems, after-school care centers, summer programs, Boys and Girls Clubs, and faith-based institutions. Additionally, to the seven urban youth agents, 00 youth and adult volunteers provided instructional and leadership support for the 4-H Health Rocks! Program.

**Results**

Alabama AI&M Extension After training 96.7% of youth indicated the importance of staying focused on learning at school compared to 88.9% prior to training t-test 20.28\*\*\* p<.001 (N=3267).

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
806	Youth Development

**Outcome #83**

**1. Outcome Measures**

Number of TMI participants who develop Life-skills

**2. Associated Institution Types**

- 1890 Extension

**3a. Outcome Type:**

Change in Knowledge Outcome Measure

**3b. Quantitative Outcome**

Year	Actual
2015	1611

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

**Issue (Who cares and Why)**

Teens Making Impact(TMI)- An alarming number of youth need understanding and guidance to develop the necessary skills to make healthy and informed choices. These healthy and informed choices are imperative in order to sustain a health and fitness lifestyle among our youth.

**What has been done**

The Teens Making Impact (TMI) program was implemented by seven Urban Regional Extension Agents representing Colbert/Lauderdale, Lawrence/Morgan, Tuscaloosa, Mobile, Montgomery, Limestone and Madison counties. Each educator conducted a series of five lessons on topics such as character education, health/physical fitness, etiquette, careers and civic education.

**Results**

Alabama A&M Extension 1611 youth completed the TMI program. Evaluation data indicated an increased knowledge in decision making skills (61%); increased knowledge in health and physical fitness,63% increased knowledge in citizenship;61% increased knowledge in job interviewing skills and 63% increased knowledge in acceptable social behavior (N= 1307).

**4. Associated Knowledge Areas**

KA Code	Knowledge Area
806	Youth Development

### **Outcome #84**

#### **1. Outcome Measures**

Number of Urban SET participants who increased STEM knowledge

#### **2. Associated Institution Types**

- 1890 Extension

#### **3a. Outcome Type:**

Change in Knowledge Outcome Measure

#### **3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2015	108

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

##### **Issue (Who cares and Why)**

In order to be competitive in the 21st Century and acquire skills in the STEM areas, we must ensure that our youth are equipped with critical thinking and problem solving skills. These skills are essential in assisting our youths in meeting the challenges found within their communities, schools and the job market.

##### **What has been done**

120 urban youth participated in a series of workshops and interactive hands-on activities in science, engineering, technology, and mathematics. These workshops were facilitated and carried out by extension agents and community volunteers.

##### **Results**

Alabama A&M Extension As a result of the STEM workshops and activities, there was an increased knowledge in the STEM areas and concepts. 70% increased knowledge in understanding the scientific method(N=108).

#### **4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
806	Youth Development

**Outcome #85**

**1. Outcome Measures**

The number of Urban SET youth who increased their ability to use scientific methods

**2. Associated Institution Types**

- 1890 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2015	195

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

**Issue (Who cares and Why)**

In order to be competitive in the 21st Century and acquire skills in the STEM areas, we must ensure that our youth are equipped with critical thinking and problem solving skills. These skills are essential in assisting our youths in meeting the challenges found within their communities, schools and the job market.

**What has been done**

Urban youth participated in a series of workshops and interactive hands-on activities in science, engineering, technology, and mathematics. These workshops were facilitated and carried out by extension agents and community volunteers.

**Results**

Participants' skills in science, technology, engineering and mathematical concepts, applications and transfers increased. Results from the STEM Day Evaluation showed that 28% of participants said yes to pursuing a career in science, while 50% indicated maybe. and 47% indicated they would work harder in advanced science or math courses and 51% said maybe. 11% of participants indicated they are currently enrolled in a pre-college science or math courses, while 66% said maybe and 5% indicated yes to participating in a summer STEM or internship program, and 71% maybe. 9% of the participants indicated yes to participating in more STEM activities or workshops while 83% said maybe (N=87).

Alabama A&M Extension As a result of the STEM workshops and activities, there was an increased interest in the STEM areas. Evaluation results showed that 66% of participants successfully completed a lab experiment using scientific methods ,59% indicated knowledge gained in following steps used in scientific method(N=108)

#### 4. Associated Knowledge Areas

KA Code	Knowledge Area
806	Youth Development

#### Outcome #86

##### 1. Outcome Measures

The number of 4H Health Rocks youth who increased confidence

##### 2. Associated Institution Types

- 1862 Extension

##### 3a. Outcome Type:

Change in Knowledge Outcome Measure

##### 3b. Quantitative Outcome

Year	Actual
2015	584

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

###### **Issue (Who cares and Why)**

Youth that participated in the school enrichment program Health Rocks had the opportunity to learn about decision making, critical thinking and stress management. During the program the youth focused on the tobacco-use prevention and how to deal with the peer pressure of saying no and how to handle stress.

###### **What has been done**

After the completion of the program the youth were surveyed on their knowledge and condition on decision making , stress management and critical thinking. The surveys indicated that the youths knowledge and condition increased due to the educational lessons presented.

###### **Results**

653 youth were surveyed on their knowledge to see who they can go to if they need help with problems concerning stress or peer pressure to use tobacco products. Out of the 653 youth 584 youth are confident and very confident that if they have problems with peer pressure to use tobacco products that they know who they can go for help.

#### 4. Associated Knowledge Areas

KA Code	Knowledge Area
806	Youth Development

**Outcome #87**

**1. Outcome Measures**

The number of 4H Health Rocks youth who have increased decision making skills

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2015	575

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

**Issue (Who cares and Why)**

After the completion of the program the youth were surveyed on their knowledge and condition on decision making , stress management and critical thinking. The surveys indicated that the youths knowledge and condition increased due to the educational lessons presented.

**What has been done**

Youth that participated in the school enrichment program Health Rocks had the opportunity to learn about decision making, critical thinking and stress management. During the program the youth focused on the tobacco-use prevention and how to deal with the peer pressure of saying no and how to handle stress.

**Results**

The Health Rocks program provided goal setting activities that allowed youth to understand and prepare positive goals for their future. 653 youth were asked in a survey if they can set goals for themselves. Out of the 653 youth 575 can set goals for themselves after participating in the Health Rocks program.

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
806	Youth Development



**Outcome #88**

**1. Outcome Measures**

The number of adults who increased estate planning knowledge

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Knowledge Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2015	293

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

**Issue (Who cares and Why)**

Approximately 120 million Americans have no estate plan in place for unexpected situations and death (National Association of Estate Planners and Councils, 2013). The purpose of estate planning is to develop a plan that will sustain the financial security later in life for individuals and simplify the transferal of property and wealth at death, while taking into consideration any unexpected costs.

**What has been done**

The Estate Planning Program was conducted by 7 Regional Extension Agents. Thirteen 4 hour workshops were conducted in 11 counties in partnership with the Alabama Securities Commissions.

**Results**

Two hundred and ninety-three (75%) of participants responded to a post- survey to assess knowledge gained. Results show that knowledge increased and the goal of showing participants how to plan for future financial security was achieved. Survey results indicated:

- \* 68% of respondents increased their general knowledge of estate planning
- \* 79% of respondents learned the difference between a will and a trust
- \* 68% of respondents learned how a living will (advanced directive) is used
- \* 70% of respondents learned steps to take to create an estate plan
- \* 69% of respondents got a question answered

#### 4. Associated Knowledge Areas

KA Code	Knowledge Area
801	Individual and Family Resource Management

#### Outcome #89

##### 1. Outcome Measures

The number of Y-LAMMS youth who increased money management knowledge

##### 2. Associated Institution Types

- 1862 Extension

##### 3a. Outcome Type:

Change in Knowledge Outcome Measure

##### 3b. Quantitative Outcome

Year	Actual
2015	235

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

###### **Issue (Who cares and Why)**

Financial literacy among adults and youth is a major issue and has increased significantly during the last decade. From learning how to manage an allowance or paycheck to setting up a budget, balancing a checkbook, understanding credit, saving money, paying for financial obligations, or setting and obtaining financial goals, financial literacy is a critical component to creating a knowledgeable consumers. Unfortunately, youth have no problem with spending but they are lacking the training needed to help them manage their money. Fortunately, it has been mandated that Alabama's curriculum includes a required career preparedness class for graduation. It requires Ninth-graders to take the yearlong course, which includes personal finance.

###### **What has been done**

The Youth Learning About Money Management (Y-LAMMS) Program was conducted by 5 Regional Extension Agents. Seven 3 hour workshops were conducted in 6 counties in partnership with the Alabama Securities Commissions.

###### **Results**

A pre- and post- survey was completed by 235 (93%) of participants who responded. Results show increases in knowledge in specific topical areas: tracking spending plans (39%), setting short-and long term financial goals (32%), link between income and lifestyle choices (17%), link between education and careers (15%), difference between needs and wants (15%), making smart money decisions (18%) and savings (17%).

#### 4. Associated Knowledge Areas

KA Code	Knowledge Area
801	Individual and Family Resource Management

#### Outcome #90

##### 1. Outcome Measures

The number of K-12 youth who increased problem solving skills as a result of the Math Infusion Center

##### 2. Associated Institution Types

- 1890 Extension
- 1890 Research

##### 3a. Outcome Type:

Change in Action Outcome Measure

##### 3b. Quantitative Outcome

Year	Actual
2015	60

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

###### **Issue (Who cares and Why)**

Government, industry, non-profit organizations and institutions, actually everyone, cares or should care as the principal role of professionals in American society is to address the various challenges of their respective disciplines with rational, logical problem solving skills.

###### **What has been done**

We use mathematics and mathematics related courses to develop problem solving skills in our target population.

###### **Results**

Tuskegee Extension and Research -Over six week period, all the 60 participants experienced a change in knowledge regarding their individual problem solving capabilities. During our two culminating activities, we observed that about 90% of the attending participants were no longer resistant or hesitant toward engaging in new, unfamiliar problem solving activities but instead exhibited ownership of, excitement about and pride in their individual problem solving abilities.

#### 4. Associated Knowledge Areas

KA Code	Knowledge Area
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

## V(I). Planned Program (Evaluation Studies)

### Evaluation Results

#### Making Money Count

a) maintain a checking account (t=10.46, p=.00) b) maintain a saving account (t=15.40, p=.00) c) compare interest rates to find the best rates (t=21.19, p=.00) d) request their credit report (t=30.79, p=.00) e) calculate their family debt load (t=29.25, p=.00) f) keep accurate records of their bank accounts (t=15.94, p=.00)

**RS-** Statistically significant improvements were documented for participants in different domains:

1. Individual functioning: self-care knowledge and behaviors, depression, physical health, sleep quality, financial management knowledge and skills, depression, and connections to social support.
2. Couple/marital relationship functioning: domestic violence awareness, understanding of significant other, caring behaviors toward significant other, conflict management knowledge and use of skills, communication knowledge and use of skills; couple quality; confidence in the stability of the relationship.

**Lets Move with Soccer** - Of the 300 youth, 40% of youth demonstrated increased stamina. After the soccer sessions, 100% the students developed the physical skills to enable them to become better soccer players. The students learned the skills of dribbling, passing, trapping, shooting, goalkeeping along with offense and defense. The development of these necessary skills produced a well-rounded beginning soccer players. 40% of participants exhibited improved muscle strength and measureable weight loss

**FCCP**-Paired samples t-tests for 123 providers who had data measuring change from 2014 to 2015 indicated statistically significant (p < .00) improvements in overall quality and the following 5 sub-categories of child care practices: (a) learning activities; (b) provider-child

interaction; (c) program structure; (d) personal care routines; and (e) listening/talking. ceased due to their participation

**STEAM-** 90% of participants' reactions, remarks and other evidence expressed measureable increase in knowledge and interests in the science education areas demonstrated. The integration of TU CAENS research with Cooperative Extension activities, projects and programs positively impacted youth development in science education. Over 250 science projects were prepared. Knowledge of scientific method was increased by 50%. The outcome measured changes in knowledge, skills, perceptions, attitudes, and actions regarding the identified need of the communities being served, and program impacts on youth (behavior, decision-making, academic progress, choices) as a result of their participation in the science education activities and survey results. 40 original books were composed and 60 personal letters were written to express knowledge of science demonstration.

**TMI** 1611 youth completed the TMI program. Evaluation data indicated an increased knowledge in decision making skills (61%); increased knowledge in health and physical fitness,63% increased knowledge in citizenship;61% increased knowledge in job interviewing skills and 63% increased knowledge in acceptable social behavior (N= 1307).

## Key Items of Evaluation

### **Making Money Count-**

After attending the program, of 250 individuals:

76% made financial decisions less impulsively and more deliberately;71% used a spending plan ;60% tracked their spending plan;58% found ways to reduce their expenses by an average of \$48 per month; 79% had a saving account;80% had a checking account ;51 % used debt management software;

**RS-** 2793 married and nonmarried participants attended couple and relationship education (CRE) classes provided by ACES agents and community partners. Evidence from pre/post surveys completed by 87% of participants indicates significant improvements in a number of targeted knowledge, behavioral, and condition outcome areas related to individual health, couple, coparenting, parenting, family functioning, and child well-being. Tests of moderation reveal similar benefits regardless of gender, race, relationship status or socio-economic status

**4H Youth Leadership** 731 youth were surveyed on their ability to work with others to solve problems. Out of the 731 youth 599 youth feel that their ability to work with others to solve problems has increased

**FCCP-**Paired samples t-tests for 123 providers who had data measuring change from 2014 to 2015 indicated statistically significant ( $p < .00$ ) improvements in overall quality and the following 5 sub-categories of child care practices: (a) learning activities; (b) provider-child interaction; (c) program structure; (d) personal care routines; and (e) listening/talking. ceased due to their participation in a 4-H leadership role.

**Lets Move with Soccer-** Of the 300 youth, 40% of youth demonstrated increased stamina. After the soccer sessions, 100% the students developed the physical skills to enable them to become better soccer players. The students learned the skills of dribbling, passing, trapping, shooting, goalkeeping along with offense and defense. The development of these necessary skills produced well-rounded beginning soccer players. 40% of participants exhibited improved muscle strength and measureable weight loss. 40% of youth reported eating more vegetables. 40% of youth reported drinking less sodas and more water 15% of youth reported less TV time. 40% of target audience reported being more selective in healthy food choices/preparations and healthful lifestyles as well as a

decrease in obesity and related illnesses. After these soccer sessions, 40% of the participants developed their social skills and were able to relate to one another and work together to share the importance of the 3210 program and encourage others. These kinds of skills were developed through game-like situations and working with partners. 40% showed improvement in sportsmanship, teamwork and positive attitudes.

**TMI** 1611 youth completed the TMI program. Evaluation data indicated an increased knowledge in decision making skills (61%); increased knowledge in health and physical fitness,63% increased knowledge in citizenship;61% increased knowledge in job interviewing skills and 63% increased knowledge in acceptable social behavior (N= 1307).

## VI. National Outcomes and Indicators

### 1. NIFA Selected Outcomes and Indicators

<b>Childhood Obesity (Outcome 1, Indicator 1.c)</b>	
0	Number of children and youth who reported eating more of healthy foods.
<b>Climate Change (Outcome 1, Indicator 4)</b>	
0	Number of new crop varieties, animal breeds, and genotypes with climate adaptive traits.
<b>Global Food Security and Hunger (Outcome 1, Indicator 4.a)</b>	
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.
<b>Global Food Security and Hunger (Outcome 2, Indicator 1)</b>	
0	Number of new or improved innovations developed for food enterprises.
<b>Food Safety (Outcome 1, Indicator 1)</b>	
0	Number of viable technologies developed or modified for the detection and
<b>Sustainable Energy (Outcome 3, Indicator 2)</b>	
0	Number of farmers who adopted a dedicated bioenergy crop
<b>Sustainable Energy (Outcome 3, Indicator 4)</b>	
0	Tons of feedstocks delivered.