

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

**Program # 1**

**1. Name of the Planned Program**

Global Food Security and Hunger - improving animal production for small producers

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
301	Reproductive Performance of Animals				20%
302	Nutrient Utilization in Animals				20%
303	Genetic Improvement of Animals				10%
307	Animal Management Systems				10%
601	Economics of Agricultural Production and Farm Management				20%
604	Marketing and Distribution Practices				20%
	<b>Total</b>				100%

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

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

Year: 2014	Extension		Research	
	1862	1890	1862	1890
<b>Plan</b>	0.0	0.0	0.0	8.5
<b>Actual Paid</b>	0.0	0.0	0.0	13.4
<b>Actual Volunteer</b>	0.0	0.0	0.0	0.0

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

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
0	0	0	676845
1862 Matching	1890 Matching	1862 Matching	1890 Matching
0	0	0	676845
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

Conduct seminars, conferences, hands-on clinics, provide written and hands-on training to producers, participate in industry events and develop industry-targeted publications based on research findings.  
 Conduct research on the longitudinal survival and reproductive output of meat goat does.  
 Conduct research on nutritional requirements for Guinea fowl.  
 Perform genome mapping of important production qualities in Guinea fowl.  
 Conduct literature review of available secondary information.  
 Conduct focus group meetings to collect information from producers and consumers.  
 Develop and administer surveys to selected producers and consumers.  
 Collect and analyze available marketing data.  
 Identify selected meat goat consumers/ethnic groups/communities.

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

Dairy and meat goat producers  
 National meat goat industry  
 Institutions of meat goat research  
 Ruminant livestock producers  
 Students  
 Public officials  
 Guinea fowl and poultry industries  
 Small farmers  
 Scientific community  
 Extension specialists

#### 3. How was eXtension used?

Two webinars were conducted.

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

#### 1. Standard output measures

2014	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
<b>Actual</b>	985	1200	500	0

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

**Patent Applications Submitted**

Year: 2014

Actual: 0

**Patents listed**

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

**Number of Peer Reviewed Publications**

2014	Extension	Research	Total
<b>Actual</b>	0	5	5

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

**Output Target**

**Output #1**

**Output Measure**

- Producer workshops to improve animal production in small farm and limited resource populations.

Year	Actual
2014	17

**Output #2**

**Output Measure**

- Dietary recommendations for improved Guinea fowl production.

Year	Actual
2014	2

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

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

O. No.	OUTCOME NAME
1	Direct contact meat goat producers will have increased knowledge of altered doe selection techniques (Enhanced capacity of a sustainable global food system including new/improved plants, animals, technologies and management systems).
2	Direct contact meat goat producers will practice altered doe selection techniques (Enhanced capacity of a sustainable global food system including new/improved plants, animals, technologies and management systems).
3	Goat producer doe non-recorders will have knowledge of the advantages of doe record keeping (Enhanced capacity of a sustainable global food system including new/improved plants, animals, technologies and management systems).
4	Goat producer doe non-recorders will practice doe record keeping (More sustainable, diverse, and resilient food systems across scales).
5	Guinea fowl producers will have knowledge of calcium and phosphorus recommendations for optimal nutrition (Enhanced capacity of a sustainable global food system including new/improved plants, animals, technologies and management systems).
6	Guinea fowl producers will adopt calcium and phosphorus recommendations for optimal nutrition (Enhanced capacity of a sustainable global food system including new/improved plants, animals, technologies and management systems).
7	Guinea fowl producers will adopt lysine recommendations for optimal nutrition (Enhanced capacity of a sustainable global food system including new/improved plants, animals, technologies and management systems).
8	Guinea fowl producers will have knowledge of lysine recommendations for optimal nutrition.
9	Guinea fowl producers will experience increased profitability of production (More sustainable, diverse, and resilient food systems across scales).
10	Goat producers will have an increased knowledge of meat goat marketing channels.
11	Goat researchers will have an increased understanding of the constraints and prospects of the meat goat industry.
12	Goat producers will expand their marketing to identified channels and markets.
13	Consumers will be aware of the healthy benefits of goat meat consumption.
14	Meat goat producers will be aware of consumer preferences for meat goat products.
15	Percentage of meat goat producers and researchers with a better understanding of how maternal genetics can affect meat goat carcass yield (Enhanced capacity of a sustainable global food system including new/improved plants, animals, technologies and management systems).

16	Meat goat producers will have increased income by marketing through new channels (More sustainable, diverse, and resilient food systems across scales).
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**Outcome #1**

**1. Outcome Measures**

Direct contact meat goat producers will have increased knowledge of altered doe selection techniques (Enhanced capacity of a sustainable global food system including new/improved plants, animals, technologies and management systems).

**2. Associated Institution Types**

- 1890 Research

**3a. Outcome Type:**

Change in Knowledge Outcome Measure

**3b. Quantitative Outcome**

Year	Actual
2014	400

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

**Issue (Who cares and Why)**

Producers need to better assess the ability of breeds to contribute to an efficient production of market kids under limited inputs.

**What has been done**

A set of presentations and research updates were developed and distributed.

**Results**

Because of research outcomes, 400 commercial producers gained a better understanding of the benefits and techniques to evaluate breeds for use in commercial meat goat herds.

**4. Associated Knowledge Areas**

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

## **Outcome #2**

### **1. Outcome Measures**

Direct contact meat goat producers will practice altered doe selection techniques (Enhanced capacity of a sustainable global food system including new/improved plants, animals, technologies and management systems).

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

- 1890 Research

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

Change in Action Outcome Measure

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

<b>Year</b>	<b>Actual</b>
2014	25

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

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

Meat goat producers need to better assess the ability of breeds to contribute to an efficient production of market kids under limited inputs.

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

A set of presentations and research updates were developed and distributed to various producer groups.

#### **Results**

Based on our research findings, an increasing number of experienced and new producers are altering their breed selection to establish or improve their meat goat breeding programs. It is estimated that 50% have modified their approach to breed selection.

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

<b>KA Code</b>	<b>Knowledge Area</b>
301	Reproductive Performance of Animals
303	Genetic Improvement of Animals
307	Animal Management Systems

### **Outcome #3**

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

Goat producer doe non-recorders will have knowledge of the advantages of doe record keeping (Enhanced capacity of a sustainable global food system including new/improved plants, animals, technologies and management systems).

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

- 1890 Research

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

Change in Knowledge Outcome Measure

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

<b>Year</b>	<b>Actual</b>
2014	80

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

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

Meat goat managers raising seedstock recognize the need to properly select breeding females within breeding herds for enhanced fitness.

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

A system of doe herd evaluation has been offered to record and select breeding stock based on objective performance measurements. A new web-based meat goat genetic evaluation system has been established.

##### **Results**

As demonstrated by our research findings, producers have begun to reconsider the need to record performance to improve the genetic and economic status of their meat goat breeding programs.

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

<b>KA Code</b>	<b>Knowledge Area</b>
301	Reproductive Performance of Animals
303	Genetic Improvement of Animals
307	Animal Management Systems

## **Outcome #4**

### **1. Outcome Measures**

Goat producer doe non-recorders will practice doe record keeping (More sustainable, diverse, and resilient food systems across scales).

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

- 1890 Research

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

Change in Action Outcome Measure

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

<b>Year</b>	<b>Actual</b>
2014	30

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

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

Meat goat managers raising seedstock recognize the need to properly select breeding females within breeding herds for enhanced fitness.

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

A system of doe herd evaluation has been offered to record and select breeding stock based on objective performance measurements.

#### **Results**

Implementation of performance recording within purebred meat goat herds has occurred on a limited basis (about 30%).

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

<b>KA Code</b>	<b>Knowledge Area</b>
301	Reproductive Performance of Animals
303	Genetic Improvement of Animals
307	Animal Management Systems

## **Outcome #5**

### **1. Outcome Measures**

Guinea fowl producers will have knowledge of calcium and phosphorus recommendations for optimal nutrition (Enhanced capacity of a sustainable global food system including new/improved plants, animals, technologies and management systems).

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

- 1890 Research

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

Change in Knowledge Outcome Measure

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

<b>Year</b>	<b>Actual</b>
2014	0

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

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

While the guinea fowl industry is growing in the United States, there are constraints in developing a thriving and sustainable industry because of lack of established nutrient requirements to guide the formulation of least-cost rations. Information on the required dietary levels of calcium, phosphorus and lysine, a limiting amino acid that would ensure optimum performance of these birds, is limited.

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

Dietary calcium (Ca) and phosphorus requirement for optimum growth performance of the Pearl Grey guinea fowl replacement pullets and laying hens were evaluated. Dietary Lysine requirement for both the French and Pearl grey varieties of the Guinea Fowl were evaluated.

#### **Results**

Pearl Grey guinea fowl replacement seems to utilize more efficiently diets containing 0.8% Ca and 0.32-0.48% available phosphorus. Pearl Grey Guinea Fowl laying hens utilized more efficiently diets containing 3.25 to 3.75% calcium and 0.35 to 0.40% available phosphorus. Number of producers with knowledge of these values has not yet been calculated.

The French guinea fowl broilers be fed diets containing 1.10 % lysine during the exponential growth phase seems to provide optimum growth performance. Findings from this research also suggest that Pearl grey guinea fowl replacement pullets (females) and males be fed diets containing 1.16% and 0.98-1.22% lysine, respectively.

Results have not been publicized yet, making the outcome count zero.

#### 4. Associated Knowledge Areas

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

#### Outcome #6

##### 1. Outcome Measures

Guinea fowl producers will adopt calcium and phosphorus recommendations for optimal nutrition (Enhanced capacity of a sustainable global food system including new/improved plants, animals, technologies and management systems).

##### 2. Associated Institution Types

- 1890 Research

##### 3a. Outcome Type:

Change in Action Outcome Measure

##### 3b. Quantitative Outcome

Year	Actual
2014	0

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

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

The costs associated with the production of guinea fowl need to be minimized for producers to realize maximum profit as this species becomes more accepted in American diets.

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

Data on calcium, phosphorus and lysine requirements of the pearl grey guinea fowl replacement pullets and laying hens were shared with the scientific community at the International Poultry Scientific Forum and also the annual Poultry Association Conference, and the guinea fowl industry.

###### **Results**

Assessment of number of number of producers who have adopted the recommendations has not been completed.

#### 4. Associated Knowledge Areas

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

## **Outcome #7**

### **1. Outcome Measures**

Guinea fowl producers will adopt lysine recommendations for optimal nutrition (Enhanced capacity of a sustainable global food system including new/improved plants, animals, technologies and management systems).

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

- 1890 Research

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

Change in Action Outcome Measure

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

<b>Year</b>	<b>Actual</b>
2014	0

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

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

Lysine is an essential amino acid in poultry and lack thereof in diets of the guinea fowl will compromise optimum growth and production performance. Currently the lysine requirements of the guinea fowl are not known.

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

The lysine requirement of both the French and Pearl grey guinea fowl broiler were evaluated.

#### **Results**

Feeding the French Guinea fowl broilers diets containing 1.10% lysine during the exponential growth phase seems to be more economical and optimal. There were no significant differences ( $P>0.05$ ) in body weight gain, feed consumption, feed conversion and carcass components of birds fed the 1.10, 1.16 and 1.22% lysine diets. Female Pearl grey guinea fowl responded better to diets containing 1.16% lysine from hatch to 16 WOA, whereas males responded better to diets containing 0.98-1.22% lysine. Therefore, we recommend that Pearl grey guinea fowl replacement pullets (females) and males be fed diets containing 1.16% and 0.98-1.22% lysine, respectively. Data on number of growers adopting the recommendations is not yet available.

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

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

## **Outcome #8**

### **1. Outcome Measures**

Guinea fowl producers will have knowledge of lysine recommendations for optimal nutrition.

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

- 1890 Research

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

Change in Knowledge Outcome Measure

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

<b>Year</b>	<b>Actual</b>
2014	0

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

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

The costs associated with the production of Guinea fowl need to be minimized for producers to realize maximum profit as this species becomes more accepted in American diets.

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

Research to determine the optimum levels of lysine is complete and the information is being disseminated to stakeholders.

#### **Results**

Optimum levels are being communicated to producers, thus no opportunity for producer knowledge/adoption of optimized levels yet.

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

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

## **Outcome #9**

### **1. Outcome Measures**

Guinea fowl producers will experience increased profitability of production (More sustainable, diverse, and resilient food systems across scales).

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

- 1890 Research

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

Change in Condition Outcome Measure

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

<b>Year</b>	<b>Actual</b>
2014	0

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

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

Feeding constitutes more than 65% of the total cost of poultry production. Minimizing this cost by establishing the lysine requirement will minimize this cost and encourage participation in guinea fowl production.

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

Research to determine the optimum levels of lysine has been completed and recommendations being disseminated to stakeholders for adoption.

#### **Results**

No results to report as yet.

A note about all of the five Guinea fowl research outcomes: the PI for this research has recently been assigned a substantial administrative role in the department, and his research responsibility has been reduced, leading to a lower level of research completion than previously planned.

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

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

## **Outcome #10**

### **1. Outcome Measures**

Goat producers will have an increased knowledge of meat goat marketing channels.

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

- 1890 Research

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

Change in Knowledge Outcome Measure

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

<b>Year</b>	<b>Actual</b>
2014	431

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

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

Goat producers need to know what consumers are looking for in their goat meat and goat products. Consumers are looking for information on alternative to red meats to meet nutritional and cultural needs with goat meat. Processors want connection with producers and consumers to maximize the use of facilities. Researchers seek opportunities to gain new knowledge about meat goat and goat meat. Students desire to learn about goat meat marketing research, how to conduct survey, and analyze data. Goats are important in the economy of Tennessee and relatively little is known about this industry.

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

Project continued mentoring, training and supervising 10 students (7 graduate students and 3 undergraduate students) in conducting research and marketing. These students were involved with literature review, survey design, data collection, data coding, data entry and analysis using IBM SPSS statistics, Microsoft office and the internet. Project team collaborated in designing and implementing educational activities for the target audiences (meat goat producers, consumers, researchers, students and stakeholders). Education and outreach included: local seminars and symposiums for students and researchers; producer related expos, field days and tours or outreach.

Team conducted research, training and education that enhanced producer skills and understanding of issues in marketing goat meat channels, processing capacity, and industry complexity in Tennessee.

#### **Results**

An analysis of recent survey (2014) found few custom slaughtered facilities sparingly located were insufficient to support local meat goat production and demand in Tennessee.

However these facilities were certified, in good sanitary condition and have the capacity to process goat meat. Furthermore, results also showed that it cost less to process large volume of animals at reduced cost, saving both the consumer money in per unit cost and producer in transportation, maximizes facility efficiency for processor. These findings support the theory that facility size plays an important role in processing larger volumes with efficiency, lowering the average fixed costs per animal.

#### 4. Associated Knowledge Areas

KA Code	Knowledge Area
307	Animal Management Systems
604	Marketing and Distribution Practices

#### Outcome #11

##### 1. Outcome Measures

Goat researchers will have an increased understanding of the constraints and prospects of the meat goat industry.

##### 2. Associated Institution Types

- 1890 Research

##### 3a. Outcome Type:

Change in Knowledge Outcome Measure

##### 3b. Quantitative Outcome

Year	Actual
2014	240

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

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

Researchers, students, producers, consumers and stakeholders interested in addressing marketing issues in marketing, assisting producers and consumer enhance their incomes by meeting the demand for goat meat.

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

Assisted target audiences with research, training, seminars and symposium, education to increase their skills, knowledge, awareness and interest in issues consuming goat meat and exploring opportunities to increase their incomes.

###### **Results**

Goat producers mentioned they faced unreliable marketing outlets, limited meat processing, logistics, seasonal demand, and lack of consumer information. Consumers faced transportation barriers to slaughter and process live animals or meat cultural and nutritional needs. Some respondents expressed their inability to transport live animals to and from the slaughter plants economically. Processors stated they had safety concerns such as cross contamination, poor records, traceability, exposure to infectious disease and transmission.

#### 4. Associated Knowledge Areas

KA Code	Knowledge Area
307	Animal Management Systems
604	Marketing and Distribution Practices

#### Outcome #12

##### 1. Outcome Measures

Goat producers will expand their marketing to identified channels and markets.

##### 2. Associated Institution Types

- 1890 Research

##### 3a. Outcome Type:

Change in Action Outcome Measure

##### 3b. Quantitative Outcome

Year	Actual
2014	75

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

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

Meat goat producers, beginning farmers, individual seeking alternative income opportunities, researchers, students, processors, consumers, stakeholders and legislators interested in goat meat, sustainable agriculture and the economy of Tennessee. Small-scale goat producer need to know what consumers are looking for in their goat meat and goat products. Also, consumers are looking for information on alternative to red meats to meet nutritional and cultural needs.

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

Project team designed and administered survey instruments to meat goat producers, and meat processors on marketing and industry issues. Conducted literature review, collected and analyzed data used in developing presentations, publishing student research, and conducting educational outreach with target audiences.

### **Results**

Making the market connections between buyers and seller becomes one of the greatest challenges. An examination of data collected showed 85 percent of producers sold their goats during religious holidays and festivals. Goat auctions, on-farm sales, contract arrangements among others were the most common marketing methods used by Tennessee producers. Chi-square test for relationship between sales channel and business success was significant. Goat producers who used the auction as their preferred goat marketing channel were more successful than those who use other outlets.

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

<b>KA Code</b>	<b>Knowledge Area</b>
604	Marketing and Distribution Practices

### **Outcome #13**

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

Consumers will be aware of the healthy benefits of goat meat consumption.

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

- 1890 Research

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

Change in Knowledge Outcome Measure

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

<b>Year</b>	<b>Actual</b>
2014	355

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

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

Health conscious consumers seeking alternative to red meat or reduce their cholesterol tend to choose goat meat. Immigrants who have a taste for goat meat, or want to satisfy nutritional needs and first time eaters also may enjoy eating goat meat. These individuals need education and information about availability of meat goat and goat products in Tennessee. Many consumers are looking for information on alternative to red meats to meet nutritional and cultural needs. An opportunity exists to fill their demand with the abundant supply of goat meat by Tennessee producers.

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

Project provided consumer education on healthy aspects to enhance market connections.

Seminars, symposium, meetings, posters and tour were used in discussing the nutritional value and benefits of consuming goat meat.

**Results**

Secondary data showed that goat meat is low in saturated fat and cholesterol, rich in protein compared to other red meats. Sixty four percent of the respondents said that advertising the product in grocery stores and restaurants, consumer education, taste sampling at fairs, festivals and local food stores, product packaging, better market conditions and among others were listed as viable factors influencing the popularity of goat meat among Americans.

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
604	Marketing and Distribution Practices

**Outcome #14**

**1. Outcome Measures**

Meat goat producers will be aware of consumer preferences for meat goat products.

**2. Associated Institution Types**

- 1890 Research

**3a. Outcome Type:**

Change in Knowledge Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2014	255

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

**Issue (Who cares and Why)**

Producers and marketers seeking to expand their farm operations, alternative farm income generating opportunities and sustainable agriculture may consider adding the goat enterprise to their ranch or farm operation.

**What has been done**

Project team conducted training, mentoring and made presentation in meetings, seminars, expos, field days, tours and related outreach with students, researchers; producers, marketers and potential consumers.

**Results**

Nearly 60% of the respondents expressed the need to make goat meat available in grocery stores, promote attributes and health benefits in comparison to beef, pork, and chicken; young ranchers must enter the industry, increase the supply of meat goat to maximize processing plant capacities Producers now have better understanding of the consumer preference of goat meat. Subsequently, producers can develop marketing strategies to satisfy consumer needs with local supply of meat goats. Consumers now know more about the benefits of goat meat, they can increase their on farm purchases of goat meat.

#### 4. Associated Knowledge Areas

KA Code	Knowledge Area
601	Economics of Agricultural Production and Farm Management
604	Marketing and Distribution Practices

#### Outcome #15

##### 1. Outcome Measures

Percentage of meat goat producers and researchers with a better understanding of how maternal genetics can affect meat goat carcass yield (Enhanced capacity of a sustainable global food system including new/improved plants, animals, technologies and management systems).

##### 2. Associated Institution Types

- 1890 Research

##### 3a. Outcome Type:

Change in Knowledge Outcome Measure

##### 3b. Quantitative Outcome

Year	Actual
2014	80

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

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

The meat goat industry has been directed towards the production of market kids over the last 10-15 years under the assumption that Boer germplasm is superior for carcass yield among goat breeds.

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

Research data were provided to industry participants that provides new insight on relative breed evaluations for meat goat carcass traits.

###### **Results**

A reassessment of long-held beliefs regarding breed selection for carcass traits is occurring among researchers and producers engaged in meat goat production.

#### 4. Associated Knowledge Areas

KA Code	Knowledge Area
303	Genetic Improvement of Animals
307	Animal Management Systems

#### Outcome #16

##### 1. Outcome Measures

Meat goat producers will have increased income by marketing through new channels (More sustainable, diverse, and resilient food systems across scales).

##### 2. Associated Institution Types

- 1890 Research

##### 3a. Outcome Type:

Change in Condition Outcome Measure

##### 3b. Quantitative Outcome

Year	Actual
2014	39

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

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

Reducing the current barriers to market infrastructure will increase accessibility, facilitate supply and demand of goat meat. Consumers who preferred goat meat now have extra disposable income want to spend on goat meat for special occasions. Goat meat is not readily available to consumers in American grocery stores and supermarkets. Producers and families with farmland are looking for alternative crop to supplement their family income. This presents the opportunity to raise goats to meet consumer needs. Therefore, opportunities exist for small farmers to increase their income potential by adding meat goat enterprise to their operation

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

Developed and administered face-to-face surveys to participating goat producers during three visits at the auction market in Columbia, Tennessee.

###### **Results**

The respondents were in the 51-80 years of golden age category, technology is very present on goat ranches. Nearly one-half use computer technology in tracking marketing, genetic and financial records. Although 40 (38%) of the respondents earned a part of their family income from

goat enterprise, majority 92% of their earnings were from gross sales under \$20,000. Only few, 8% of the respondents said they earned \$50,000 and more per year. Many farmers explained that raising goats provided them with alternative source of family income. Additionally, data analysis revealed that 85 percent of goat producers worked off-farm full-time in such various capacities as automobile mechanic, construction worker, electrician, factory workers, high school teachers, retired or some other occupation. Fifteen percent of the producers raised goats as their primary occupation.

#### 4. Associated Knowledge Areas

KA Code	Knowledge Area
601	Economics of Agricultural Production and Farm Management
604	Marketing and Distribution Practices

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

##### External factors which affected outcomes

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

##### Brief Explanation

A note about all of the five Guinea fowl research outcomes: the PI for this research has recently been assigned a substantial administrative role in the department, and his research responsibility has been reduced, leading to a lower level of research completion than previously planned.

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

##### Evaluation Results

Project evaluations have been developed and implemented. Four evaluations have been implemented before and after evaluation of participation in educational seminars, symposiums, workshops and outreach conferences with producers, students/researchers and consumers. These instruments captured knowledge gain by participants in these events. A very high percentage (85%) of end-users of meat goat products surveyed stated improved knowledge non-meat uses for goat, including dairy, fiber, cosmetics, agro-tourism, pets, brush control, and related valuable uses. Much of the goat research communicates a reluctance to implement recommendations: while 80% of the producers surveyed knew about the recommendations, only about 25-30% were implementing the recommendations. The project is evaluating options to improve the adoption rate.

##### Key Items of Evaluation