

**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**

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
102	Soil, Plant, Water, Nutrient Relationships		10%		10%
205	Plant Management Systems		15%		15%
211	Insects, Mites, and Other Arthropods Affecting Plants		10%		10%
213	Weeds Affecting Plants		5%		5%
301	Reproductive Performance of Animals		10%		10%
302	Nutrient Utilization in Animals		10%		10%
303	Genetic Improvement of Animals		5%		5%
308	Improved Animal Products (Before Harvest)		5%		5%
311	Animal Diseases		10%		10%
501	New and Improved Food Processing Technologies		5%		5%
602	Business Management, Finance, and Taxation		5%		5%
604	Marketing and Distribution Practices		10%		10%
	<b>Total</b>		100%		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	22.0	0.0	30.0
<b>Actual Paid</b>	0.0	18.5	0.0	30.0
<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	915273	0	2528547
1862 Matching	1890 Matching	1862 Matching	1890 Matching
0	915273	0	2528547
1862 All Other	1890 All Other	1862 All Other	1890 All Other
0	0	0	0

**V(D). Planned Program (Activity)**

**1. Brief description of the Activity**

The program utilized an interdisciplinary team in agriculture to explore food insecurity issues. It identified strategies to find solutions as a means of impacting the community through research and educational programs. Research in plant and animal production as well as in agricultural economics was conducted to identify ways by which hunger and food insecurity can be alleviated and eventually eradicated. This research was conducted by synthesizing both existing knowledge and new findings in agricultural sciences. The educational program provided a wide range of demonstrations, farm tours, group meetings, seminars, applied research, and one-on-one intervention. Other related activities included public service announcements, dissemination of newsletters, development of websites, publication of research reports, information sheets, and publications in scientific journals. These activities were geared towards increased food production, availability, and access.

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

This program was designed specifically for the limited-resource farmers and rural dwellers within the State of Mississippi. Farmers and dwellers in Mississippi and across the nation were provided with findings related to sustainable production, preservation and utilization of identified alternative crops.

**3. How was eXtension used?**

eXtension was used to seek information regarding vegetable production practices in regards to Integrated Pest Management (IPM) education.

**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>	7619	5902	5500	470

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

**Patent Applications Submitted**

Year: 2014  
 Actual: 0

**Patents listed**

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

**Number of Peer Reviewed Publications**

2014	Extension	Research	Total
Actual	1	6	7

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

**Output Target**

**Output #1**

**Output Measure**

- Development of research papers and publications on the findings of studies focusing on plant systems.

Year	Actual
2014	10

**Output #2**

**Output Measure**

- Conduct educational field days for limited-resource farm families on sustainable crop production practices.

Year	Actual
2014	14

**Output #3**

**Output Measure**

- Conduct educational tours for limited-resource farm families on sustainable crop production practices.

Year	Actual
2014	10

#### **Output #4**

##### **Output Measure**

- Conduct educational programs on sustainable horticulture production practices to limited-resources farm families.

<b>Year</b>	<b>Actual</b>
2014	15

#### **Output #5**

##### **Output Measure**

- Develop educational fact sheets on sustainable horticulture production practices to limited-resources farm families.

<b>Year</b>	<b>Actual</b>
2014	12

#### **Output #6**

##### **Output Measure**

- Conduct research projects on sustainable crop production practices.

<b>Year</b>	<b>Actual</b>
2014	8

#### **Output #7**

##### **Output Measure**

- Conduct educational workshop for limited-resource farm families on forest soil erosion/management.

<b>Year</b>	<b>Actual</b>
2014	6

#### **Output #8**

##### **Output Measure**

- Conduct educational demonstrations for limited-resource farm families on best management practices and best available technologies for livestock production.

<b>Year</b>	<b>Actual</b>
2014	14

**Output #9**

**Output Measure**

- Conduct educational programs, activities or events on forage production practices for limited-resource farm families

<b>Year</b>	<b>Actual</b>
2014	15

**Output #10**

**Output Measure**

- Conduct educational programs, activities or events to improve herd genetics for limited-resource farm families.

<b>Year</b>	<b>Actual</b>
2014	16

**Output #11**

**Output Measure**

- Conduct educational programs, activities or events on pastured livestock production practices for limited- resource farm families.

<b>Year</b>	<b>Actual</b>
2014	22

**Output #12**

**Output Measure**

- Conduct educational programs, activities or events on reproduction performance, nutrient utilization in animals to decrease livestock production cost for limited-resource farm families.

<b>Year</b>	<b>Actual</b>
2014	21

**Output #13**

**Output Measure**

- Conduct educational programs, activities or events on alternative livestock production practices for limited- resource farm families.

<b>Year</b>	<b>Actual</b>
2014	18

**Output #14**

**Output Measure**

- Develop research publications related to animal/meat production.

<b>Year</b>	<b>Actual</b>
2014	3

**Output #15**

**Output Measure**

- Develop research based reader friendly pamphlets and fact sheets on livestock production for Extension educators and farm families.

<b>Year</b>	<b>Actual</b>
2014	5

**Output #16**

**Output Measure**

- Develop M.S. thesis on animal production systems.

<b>Year</b>	<b>Actual</b>
2014	1

**Output #17**

**Output Measure**

- Conduct educational programs and demonstrations on alternative crop production.

<b>Year</b>	<b>Actual</b>
2014	15

**Output #18**

**Output Measure**

- Conduct educational programs and demonstrations on community and container gardening.

<b>Year</b>	<b>Actual</b>
2014	10

**Output #19**

**Output Measure**

- Conduct educational programs of food safety and sanitation practices.

<b>Year</b>	<b>Actual</b>
2014	7

**Output #20**

**Output Measure**

- Conduct educational programs and demonstrations on Direct Marketing of Alternative Agriculture Enterprises

<b>Year</b>	<b>Actual</b>
2014	7

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

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

O. No.	OUTCOME NAME
1	Increase number of program participants to adopt integrated nutrient management to increase crop production.
2	Increase number of program participants to utilize integrated pest management to improve the quality of vegetable production.
3	Increase number of producers to adopt new crop systems to improve crop yield and quality.
4	Increase number of participants to improve product handling and sanitation.
5	Increase number of participants to use recommended cultivar and other production practices to enhance productivity and profitability.
6	Increase number of program participants to improve production livestock production efficiency through best management practices.
7	Increase number of producers that will improve pasture grass fed to livestock.
8	Increase number of farmers to utilize artificial insemination and/or embryo transfer to decrease the need to purchase quality male animals and improve herd genetics.
9	Increase number of farmers to adopt pasture or alternative livestock systems as an alternative enterprise.
10	Increase the number of communities establishing community and container gardens to increase the availability of fresh and locally grown produce.
11	Increase the number of farmers and vendors that gain knowledge on Direct Marketing of Alternative Agriculture Enterprises.

## **Outcome #1**

### **1. Outcome Measures**

Increase number of program participants to adopt integrated nutrient management to increase crop production.

### **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>
2014	15

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

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

Plant nutrients must be added continually to most soils for higher yields after intensive cultivation. However, they must be applied with caution. Fertilizer additions must be calculated to replace the soil nutrient loss and also to assess fertilizer efficiency. Excessive amounts of fertilizers are released into the environment by miscalculating how much material to apply. Therefore, soil tests must be used to determine which nutrients are deficient and the amount of the deficiency to evaluate, correct and avoid problems. Thus, it is essential to educate producers on specific soil management and cropping systems of the tested soil for achieving efficient production of crops and solving problems of plant nutrient deficiencies or toxicities.

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

Obtaining and analyzing soil samples that are representative of the area to be used in production will ensure the correct application of the right amount of nutrients needed for the crop. Therefore, fifteen workshops on crop production practices (such as site selection, soil-sampling techniques, seeds and seed growing methods, and different nutrient and pest application methods for vegetable production) were conducted for limited-resource farmers at various Extension program activities. A total of 550 farmers and youth attended the events.

#### **Results**

Questionnaires conducted after the workshops indicated that 90% of the participants intend to take action or make changes in their crop production programs based on the information received from the training. The results also indicate that 90% of the participants conducted soil tests before planting their crops this growing season. 92% of the participants who conducted soil tests applied the recommended amount of nutrients based on the soil test results. Additionally, the results

revealed that the majority of the participants engaged in using cover crop and crop rotation to maintain soil fertility and weed control measures.

#### 4. Associated Knowledge Areas

KA Code	Knowledge Area
102	Soil, Plant, Water, Nutrient Relationships

#### Outcome #2

##### 1. Outcome Measures

Increase number of program participants to utilize integrated pest management to improve the quality of vegetable production.

##### 2. Associated Institution Types

- 1890 Extension
- 1890 Research

##### 3a. Outcome Type:

Change in Action Outcome Measure

##### 3b. Quantitative Outcome

Year	Actual
2014	10

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

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

Most vegetable farmers rely heavily on the spraying of pesticides to reduce crop damage from pests and diseases. Maintaining high levels of agricultural productivity and profitability while reducing synthetic chemical pesticide use presents a significant challenge. Proper care and maintenance of agricultural resources while maintaining productivity requires knowledge that emphasizes not only cultural and biological controls as the main defense against pests, but includes the judicious use of synthetic chemical pesticides. This knowledge begins with Integrated Pest Management (IPM).

IPM is a combined crop management approach, used to solve ecological problems when applied in agriculture. A key need for IPM development and adoption is to create public awareness and understanding of the health, environmental, and economics impacts through education programs. Therefore, many ASUEP outreach activities focused on educating farmers on the principles and practices of IPM.

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

Ten hands-on training workshops on IPM were conducted for our target audience at the Alcorn State University demonstration centers located in Mound Bayou, Preston, Marks, and Lorman. Additional workshops were also conducted at participating farmer's fields. Three hundred and seventy farmers and youth attended the training workshops, which utilized IPM training materials developed through feedback from need assessment questionnaires.

The training material contained information on system approaches to IPM practices (such as biological, cultural, chemical, physical/mechanical) and promotion of biodiversity. They also included strategies for building and maintaining soil fertility, organic pest management, cover cropping and crop rotation. Participants were trained on different pest monitoring techniques, the use of beneficial insects, cultural, mechanical/physical control methods and the use of low impact pesticides. Participants were also educated on the use of cover cropping and crop rotation as both a weed control measure and as a means of maintaining soil fertility.

### **Results**

The questionnaire survey administered at the training workshops revealed that the average age of the participating farmer is 47-years-old. The farm size ranged from less than three acres (5%), up to 10 acres (40%), 11-25 acres (35%) and more than 25 acres (20%). The majority of the participants (84%) reported that they received just a fraction of their annual income from the farm. The primary crops grown were southern peas, okra, melons and green (mustard, turnips, collards and Kale).

Retrospective post surveys were used to determine the effective of each training program. The overall participant's level of knowledge was increased in all areas of instruction. Ninety percent of participants indicated they had taken action or made changes to their pest management program, 80% stated that they used low-impact pesticides; 70%-mechanical or physical control techniques; 65%- cultural control techniques, and 55%- biological controls. Additionally, 78% of the participants indicated they now used cover crop and crop rotation to maintain soil fertility and as a weed control measure.

## **4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
102	Soil, Plant, Water, Nutrient Relationships
205	Plant Management Systems
211	Insects, Mites, and Other Arthropods Affecting Plants

## **Outcome #3**

### **1. Outcome Measures**

Increase number of producers to adopt new crop systems to improve crop yield and quality.

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

- 1890 Extension
- 1890 Research

### 3a. Outcome Type:

Change in Action Outcome Measure

### 3b. Quantitative Outcome

Year	Actual
2014	10

### 3c. Qualitative Outcome or Impact Statement

#### Issue (Who cares and Why)

Crop production is a complex operation. Its success depends on adapting to new and improved cropping systems. Vegetable crops can be produced from a very small parcel of land if the producer is able to make the appropriate decisions in terms of selecting and managing the production inputs. Many diseases and pests that affect horticultural crops are the results of the cropping systems used. Therefore, producers must be introduced to new crop varieties and cropping systems that are adapted to new production technology.

#### What has been done

Different sustainable production practices, such as variety, nutrient application, and pest/ disease control methods, were compared with the current conventional production practices at the demonstration centers. Subsequently, during field days conducted by the ASUEP in Preston, Lorman and Mound Bayou, 1000 farmers were educated on modern production techniques such as: current variety, different pest and disease management methods, crop rotation, cover cropping, mulching, and tillage practices.

#### Results

Response from the survey conducted after the workshops indicated that 90% of the participants anticipate adopting sustainable farming systems based on the training workshops while 88% indicated that they have adopted the use of cover crop and crop rotation to maintain soil fertility and weed control measures on their farming operations.

### 4. Associated Knowledge Areas

KA Code	Knowledge Area
102	Soil, Plant, Water, Nutrient Relationships
205	Plant Management Systems

## **Outcome #4**

### **1. Outcome Measures**

Increase number of participants to improve product handling and sanitation.

### **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>
2014	10

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

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

A sanitation program is as good as the attitude, willingness, and efforts of the people. The importance of proper postharvest handling techniques for horticultural crops is vital. Concerns about food safety when handling fresh fruits and vegetables have increased over the past decade. It is essential that everyone concerned in the food system accept the full meaning of sanitation and its wide economic scope. Therefore, producers must be trained on Best Management Practices (BMPs) that include appropriate sanitation principles, product-handling practices, manufacturing controls, and personal hygiene practices.

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

A sanitation program is as good as the attitude, willingness, and efforts of the people. The importance of proper postharvest handling techniques for horticultural crops is vital. Concerns about food safety when handling fresh fruits and vegetables have increased over the past decade. It is essential that everyone concerned in the food system accept the full meaning of sanitation and its wide economic scope. Therefore, producers must be trained on Best Management Practices (BMPs) that include appropriate sanitation principles, product-handling practices, manufacturing controls, and personal hygiene practices.

#### **Results**

Some form of education is necessary for all workers who handle vegetable crops. Properly trained personnel will be more care careful when handling vegetable crops. Results of the questionnaire conducted after the crop production, harvesting and product handling workshops indicated that the majority (90%) of participants have adopted sustainable farming practices, as well as better product handling and sanitation technology on their farms.

#### 4. Associated Knowledge Areas

KA Code	Knowledge Area
501	New and Improved Food Processing Technologies

#### Outcome #5

##### 1. Outcome Measures

Increase number of participants to use recommended cultivar and other production practices to enhance productivity and profitability.

##### 2. Associated Institution Types

- 1890 Extension
- 1890 Research

##### 3a. Outcome Type:

Change in Action Outcome Measure

##### 3b. Quantitative Outcome

Year	Actual
2014	8

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

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

Each year, thousands of new vegetable cultivars are released from both seed companies and public research institutions around the world. These new cultivars provide the potential for increased yields, quality and pest resistance. At the same time, changing production practices, pest pressures, economic conditions and environmental constraints alter the performance of vegetable cultivars. Cultivars, which were once the industry standard soon become obsolete due to these rapid changes. Farmers need to be educated on sustainable methods of vegetable production techniques in order to produce quality vegetable crops.

###### What has been done

To assist small farmers in making better crop choices on their farms, five workshops and three hands-on training activities were conducted at the research and demonstration farms in Lorman, Preston and Mound Bayou, Mississippi, as well as at farmers' fields and during Extension program activities. These workshops were used to educate 650 farmers (including youth) on proper crop selection and different production practices including cultivar, fertilizer and irrigation rates, planting densities, and pest control programs.

###### Results

There is no single best variety for a particular location. The most recommended varieties are

those that are consistently high yielding, adapted and disease resistant. Retrospective post surveys were used to determine the effectiveness of the training program indicated that approximately 92% of the participants who attended the workshops are now making better crop choices by purchasing and planting recommended varieties.

#### 4. Associated Knowledge Areas

KA Code	Knowledge Area
102	Soil, Plant, Water, Nutrient Relationships
205	Plant Management Systems

#### Outcome #6

##### 1. Outcome Measures

Increase number of program participants to improve production livestock production efficiency through best management practices.

##### 2. Associated Institution Types

- 1890 Extension
- 1890 Research

##### 3a. Outcome Type:

Change in Action Outcome Measure

##### 3b. Quantitative Outcome

Year	Actual
2014	14

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

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

Small Producers often don't understand or don't use Best Management Practices (BMPs) as land management strategies to prevent or reduce the movement of sediment, nutrients, pesticides and other pollutants from the land to surface or groundwater. BMPs are designed to protect water quality from the adverse effects of land management practices at all locations within a watershed. As effective and practical tools for environmental protection, producers should use BMPs that include soil and water conservation practices and other management techniques as well as social actions developed for a particular region.

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

Knowledge of BMPs for nutrition, herd health, and reproductive performance was disseminated and taught to producers during field days, as well as through personal contacts, bulletins and demonstrations. Four hundred and sixty five producers and potential producers received

educational programming through eight workshops, a tour and five seminars on rotational grazing, Best Management Practices, reproductive performance and forage requirements.

### **Results**

Three hundred eighty-four limited resource producers indicated they were using rotational grazing and following BMP guidelines in their operations. Eighty percent of producers indicated that rotational grazing and BMPs would be implemented into their farming plan. Seventy-five percent of producers indicated an interest in applying the techniques learned through Extension activities. Limited-resource producers used Best Management Practices that increased the quality of animals raised and have seen some economic benefits. Two hundred five limited-resource producers and farm families were documented as having adopted new management techniques.

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

<b>KA Code</b>	<b>Knowledge Area</b>
102	Soil, Plant, Water, Nutrient Relationships
301	Reproductive Performance of Animals
302	Nutrient Utilization in Animals
303	Genetic Improvement of Animals
308	Improved Animal Products (Before Harvest)
311	Animal Diseases

### **Outcome #7**

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

Increase number of producers that will improve pasture grass fed to livestock.

#### **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>
2014	21

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

**Issue (Who cares and Why)**

Limited-resource producers often lack resources and knowledge to improve pastures. Soil test are very seldom used to determine the needs of the soil in order to grow quality pastures. Weed control is not applied and weeds compete with grasses, denying the livestock of quality grazing conditions.

**What has been done**

Through the collaborative efforts of ASUEP, MSUES & NRCS, 21 activities were implemented, which included a Grazing and Best Management Practice tour and educational field days, along with a tour of conservation practices used to enhance livestock production. Technical assistance and information on winter/spring pastures, herd health, forage management, and nutrient requirements were provided to 406 participants.

**Results**

Upon post-evaluation of grazing conference, field day and tour participants, 85% of the participants indicated that they were using the techniques gained, or had plans to implement them on their farms in the future. Through these efforts, 406 producers gained knowledge and training on forage management, weed control, and the importance of nutrients on pasture grasses.

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
205	Plant Management Systems
308	Improved Animal Products (Before Harvest)

**Outcome #8**

**1. Outcome Measures**

Increase number of farmers to utilize artificial insemination and/or embryo transfer to decrease the need to purchase quality male animals and improve herd genetics.

**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>
2014	21

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

**Issue (Who cares and Why)**

---

The knowledge and resources to improve genetics have not been applied to livestock operations, which leads to poor animals for market. Most producers have not planned or do not have the resources for an effective breeding season, which should include typical management activities such as making sure that bulls, bucks and boars are in adequate body condition and have passed a breeding soundness exam well in advance of the breeding season. Small producers often do not have the resources and knowledge to make decisions using artificial insemination that will produce traits that he/she needs.

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

Through 21 artificial inseminations (AI) activities (including our Annual Small farmers Conference) producers gained knowledge and training on artificial insemination/estrus synchronization and Best Management Practices. Additionally, swine producers, through our Pork Producers Field Day, were informed of the importance of improving genetics through artificial insemination to meet market demands. Information on genetic improvement was disseminated to limited-resource producers and farm families. Through these efforts, 565 participants gained knowledge and changed their behaviors toward reproductive performance.

#### **Results**

Through evaluations and farm visits, four new cattle producers were assisted in using artificial insemination. As a result of training, last year's producers who introduced AI into their herds experienced sufficiently improved herd genetics over the last breeding season. Another six cattle producers will begin artificial insemination during the next breeding season. Twenty-four producers indicated that they would receive more training and begin the process in the future.

Interest from swine and goat producers has improved with the need for quality animals for the market place. Two new goat producers have implemented AI to improve the quality of their show goats, but the vast majority felt that their operations were too small to invest the time needed to succeed. Although most of the producers understood the need for improvement, they were reluctant to change due to the lack of knowledge, training, and experiment in artificial insemination.

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

<b>KA Code</b>	<b>Knowledge Area</b>
303	Genetic Improvement of Animals

#### **Outcome #9**

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

Increase number of farmers to adopt pasture or alternative livestock systems as an alternative enterprise.

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

- 1890 Extension
- 1890 Research

### 3a. Outcome Type:

Change in Action Outcome Measure

### 3b. Quantitative Outcome

Year	Actual
2014	21

### 3c. Qualitative Outcome or Impact Statement

#### Issue (Who cares and Why)

Small producers often don't understand or don't have a farm plan established, which is needed in order to maximize their operations. Opportunities often exist for producers to develop alternative enterprises that will supplement their farming income. Knowledge of pasture systems which use (BMPs) as a land management strategy have not been used.

#### What has been done

Small and limited-resource producers were provided information through workshops, field days and one-on-one consultations on alternative enterprises with emphasis placed on pastured poultry, pastured swine and goat production. This knowledge was disseminated through a series of 21 workshops.

#### Results

Through evaluation and observation measures, 65% of the participants were found to have implemented an alternative enterprise in their present operation. Evaluations also indicated that 75% had some type of pasture system for livestock on their farm. About 85% of the participants indicated that they understood the need for pasture systems and were implementing these systems in their operations.

One hundred thirty six youth participated in field day and demonstration events, in which pastured poultry was promoted as an alternative enterprise. Through evaluation, 22 youth indicated that they were raising pastured poultry and 40 indicated that they were planning to begin raising pastured poultry in the near future. Over 500 adults and youth gained knowledge on pastured systems and around 40% implemented these systems on the family farms.

### 4. Associated Knowledge Areas

KA Code	Knowledge Area
308	Improved Animal Products (Before Harvest)

## **Outcome #10**

### **1. Outcome Measures**

Increase the number of communities establishing community and container gardens to increase the availability of fresh and locally grown produce.

### **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>
2014	15

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

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

Vegetable gardeners in urban area are faced with lots of problems such as lack of space, soils contaminated with heavy metals (such as lead and arsenic), excessive shade from trees and building, and soil-borne diseases such as fusarium, pythium, rhizoctonia, and phytophthora. Container gardening allows the grower to create special gardens that thrive in any situation. The popularity of container gardening has exploded. Plants in containers are showing up everywhere. From the front porches of bungalows to the rooftops of urban high-rises, plants in pots can be found. One reason is because container garden growers may grow special plants that need a bit more attention to soil and water than he/she will be able to provide in a large in-ground garden. Successful container gardeners know that good looking, well-maintained and long-lasting containers don't just happen. But when a few basic principles are applied, even first-time gardeners can create and maintain attention-grabbing containers.

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

Alcorn State University Extension Program specialists and educators have utilized current research and information in conducting a combination of 15 workshops, field days and farm tours for Southwest Mississippi residents who wish to gain an understanding of community and container gardening. A total of 900 participants attend these events and activities.

#### **Results**

Not everybody is lucky to have a yard at the back or a big garden. But it is heartening to know that with the help of container vegetable gardens, garden enthusiasts have the option of growing vegetables at their own sweet will. Container vegetable garden is a gift for all who have a passion for gardens but do not have the required space. Results from the questionnaire survey

administered at the events revealed that 88% of the participants were willing to engage in container gardening or make changes to their current container gardening methods.

#### 4. Associated Knowledge Areas

KA Code	Knowledge Area
205	Plant Management Systems

#### Outcome #11

##### 1. Outcome Measures

Increase the number of farmers and vendors that gain knowledge on Direct Marketing of Alternative Agriculture Enterprises.

##### 2. Associated Institution Types

- 1890 Extension

##### 3a. Outcome Type:

Change in Knowledge Outcome Measure

##### 3b. Quantitative Outcome

Year	Actual
2014	7

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

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

Limited-resource and socially disadvantaged farmers and vendors in Southwest Mississippi need a means of recycling over-ripen or surplus produce left on their farms. Many farmers lack the knowledge of new and improved marketing techniques in appealing to customers. In order for them to continue to be competitive and increase their revenue, there is a need for alternative marketing of value-added products.

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

The ASUEP Marketing Coordinator has used various avenues to inform limited-resource and socially-disadvantaged farmers and vendors on how to use niche marketing (such as Farmers Markets) as a means of creatively using surplus and/or over-ripen produce to increase revenue and open themselves up to additional markets. This was done through the annual Small Farmers Conference, Annual Farmers' Certification Workshop, one-on-one trainings, displays and exhibits.

###### **Results**

As a result of the information mention above, farmers and vendors are now in a position to increase their profit margin. This will allow them to be competitive with other farmers and vendors that are in competition with at their local farmers markets.

#### 4. Associated Knowledge Areas

KA Code	Knowledge Area
604	Marketing and Distribution Practices

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

##### External factors which affected outcomes

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

##### Brief Explanation

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

##### Evaluation Results

- Limited-resource farmers need farmers markets and other direct outlets to market their products.
- There is an increase interest in community gardens.
- Limited-resource farmers are adopting sustainable vegetable production practices.
- More limited resources farmers are producing syrup which is adding to their farm's net worth.

##### Key Items of Evaluation

Limited resource farm families are interested in alternative crop production and technical assistance in alternative marketing strategies.