

**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%		40%
205	Plant Management Systems		10%		35%
211	Insects, Mites, and Other Arthropods Affecting Plants		5%		17%
213	Weeds Affecting Plants		5%		0%
301	Reproductive Performance of Animals		10%		0%
302	Nutrient Utilization in Animals		10%		0%
303	Genetic Improvement of Animals		5%		0%
308	Improved Animal Products (Before Harvest)		5%		0%
311	Animal Diseases		10%		0%
501	New and Improved Food Processing Technologies		5%		0%
602	Business Management, Finance, and Taxation		5%		0%
603	Market Economics		7%		0%
608	Community Resource Planning and Development		8%		8%
609	Economic Theory and Methods		5%		0%
	<b>Total</b>		100%		100%

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

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

Year: 2012	Extension		Research	
	1862	1890	1862	1890
Plan	0.0	20.0	0.0	30.0
Actual Paid Professional	0.0	12.0	0.0	30.0
Actual Volunteer	0.0	0.0	0.0	0.0

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

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
0	1197438	0	2285529
1862 Matching	1890 Matching	1862 Matching	1890 Matching
0	1197438	0	2285529
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 will utilize an interdisciplinary team in agriculture to explore food insecurity issues and identify 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 will be conducted to identify ways by which hunger and food insecurity can be alleviated and eventually eradicated. Research will be conducted by synthesizing existing knowledge and new findings in agricultural sciences. The educational program will provide a wide range of demonstrations, farm tours, group meetings, seminars, applied research, and one-to-one intervention. The indirect activities will include public service announcements, dissemination of newsletters, development of websites, research publication reports, information sheets, and publications in scientific journals. These activities will be geared towards increased food production, availability, and access.

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

This program will be designed specifically for the limited-resource farmers and rural dwellers within the State of Mississippi. We hope to provide the farmers and dwellers in Mississippi and the nation with findings related to sustainable production, preservation and utilization of identified alternative crops.

**3. How was eXtension used?**

eXtension was not used in this program

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

**1. Standard output measures**

2012	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
<b>Actual</b>	53750	4408	4046	0

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

**Patent Applications Submitted**

Year: 2012  
 Actual: 0

**Patents listed**

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

**Number of Peer Reviewed Publications**

2012	Extension	Research	Total
Actual	3	0	3

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

**Output Target**

**Output #1**

**Output Measure**

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

Year	Actual
2012	9

**Output #2**

**Output Measure**

- Conduct educational programs for limited-resource farm families and youth in communities on soil, plant, water, and nutrient relationships.

Year	Actual
2012	5

**Output #3**

**Output Measure**

- Conduct educational activities(demonstrations and workshops) for limited-resource farm families and youth in communities on plant management systems.

Year	Actual
2012	5

**Output #4**

**Output Measure**

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

<b>Year</b>	<b>Actual</b>
2012	5

**Output #5**

**Output Measure**

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

<b>Year</b>	<b>Actual</b>
2012	6

**Output #6**

**Output Measure**

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

<b>Year</b>	<b>Actual</b>
2012	0

**Output #7**

**Output Measure**

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

<b>Year</b>	<b>Actual</b>
2012	0

**Output #8**

**Output Measure**

- Number of Research Projects

<b>Year</b>	<b>Actual</b>
2012	0

**Output #9**

**Output Measure**

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

<b>Year</b>	<b>Actual</b>
2012	0

**Output #10**

**Output Measure**

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

<b>Year</b>	<b>Actual</b>
2012	0

**Output #11**

**Output Measure**

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

<b>Year</b>	<b>Actual</b>
2012	8

**Output #12**

**Output Measure**

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

<b>Year</b>	<b>Actual</b>
2012	10

**Output #13**

**Output Measure**

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

<b>Year</b>	<b>Actual</b>
2012	4

**Output #14**

**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>
2012	8

**Output #15**

**Output Measure**

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

<b>Year</b>	<b>Actual</b>
2012	0

**Output #16**

**Output Measure**

- Number of research publications published in the field on animal/meat production systems.

<b>Year</b>	<b>Actual</b>
2012	0

**Output #17**

**Output Measure**

- Number of research based reader friendly pamphlets and leaflets developed for extension educators for farmers and farm families.

<b>Year</b>	<b>Actual</b>
2012	0

**Output #18**

**Output Measure**

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

<b>Year</b>	<b>Actual</b>
2012	0

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

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

O. No.	OUTCOME NAME
1	Increase percentage of program participants to adopt integrated nutrient management to increase crop production.
2	Increase percentage of program participants to utilize integrated pest management to improve the quality of vegetable production.
3	Increase percentage of producers to adopt new crop systems to improve crop yield and quality.
4	Increase percentage of participants to improve product handling and sanitation.
5	Increase percentage of participants to use recommended cultivar and other production practices to enhance productivity and profitability.
6	Increase percentage of program participants to improve production efficiency through best management practices.
7	Increase percentage of producers that will improve pasture grass fed to livestock.
8	Increase percentage 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 percentage of farmers to adopt pasture systems for production and/or alternative livestock as an alternative enterprise.
10	Decrease in percentage of input cost of livestock production with the implementation of pasture systems for livestock production or best management practices.

## **Outcome #1**

### **1. Outcome Measures**

Increase percentage 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 Knowledge Outcome Measure

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

<b>Year</b>	<b>Actual</b>
2012	0

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

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

The implementations of Best Management Practices (BMP) are critical in crop production. Best management practices are farming methods that assure optimum plant growth and minimize adverse environmental effects. Therefore, the determination of best management practices for sustainable crop production will require among others information on soil testing, integrated pest management, variety selection, limited tillage, irrigation, cover cropping and crop rotation. No single set of BMPs applies in all situations. The best set of practices for a specific cropping situation will depend on individual circumstances. Thus, management practices differ according to the needs, wants and resources available to farmers. However, there is a need to educate farmers on best management practices to help them improve and sustain their productivity.

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

Vegetables are produced in a dynamic biological system that must be adequately understood by farmers in order to produce quality produce. To this end, (ASUEP) specialists and educators utilized current research and information in conducting a series of workshops, field days and farm tours for farmers wishing to gain an understanding of how to make environmentally appropriate decisions related to plant selection, soil management, plant maintenance, pest and nutrient management. A total of 500 participants attend the events and activities.

#### **Results**

Results from the questionnaire survey administered at the training events revealed that 90% of the participants anticipate taking action or making changes on their crop production program based on the information received from the training workshops. The results, also, indicated that majority of the farmers (80%) anticipate adopting IPM practices based on the training workshops. Additionally, 78% of the participants indicated that they used covered crop and crop rotation to maintain soil fertility, and weed control measures. Results, also, revealed that 85% conducted soil

tests prior to planting.

#### 4. Associated Knowledge Areas

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

#### Outcome #2

##### 1. Outcome Measures

Increase percentage 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 Knowledge Outcome Measure

##### 3b. Quantitative Outcome

Year	Actual
2012	0

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

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

The implementations of Best Management Practices (BMP) are critical in crop production. Best management practices are farming methods that assure optimum plant growth and minimize adverse environmental effects. Therefore, the determination of best management practices for sustainable crop production will require among others information on soil testing, integrated pest management, variety selection, limited tillage, irrigation, cover cropping and crop rotation. No single set of BMPs applies in all situations. The best set of practices for a specific cropping situation will depend on individual circumstances; thus, management practices differ according to the needs, wants and resources available to farmers. However, there is a need to educate farmers on best management practices to help them improve and sustain their productivity.

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

Vegetables are produced in a dynamic biological system that must be adequately understood by farmers in order to produce quality produce. To this end, ASUEP specialists and educators utilized current research and information in conducting a series of workshops, field days and farm tours for farmers wishing to gain an understanding of how to make environmentally appropriate

decisions related to plant selection, soil management, plant maintenance, pest and nutrient management. A total of 500 participants attend the events and activities.

### **Results**

Results from the questionnaire survey administered at the training events revealed that 90% of the participants anticipate taking action, or making changes on their crop production program based on the information received from the training workshops. The results, also, indicated that majority of the farmers (80%) anticipate adopting IPM practices based on the training workshops. Additionally, 78% of the participants indicated that they used cover crop and crop rotation to maintain soil fertility, and weed control measures. Results, also, revealed that 85% conducted soil tests prior to planting.

### **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 percentage 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 Knowledge Outcome Measure

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

<b>Year</b>	<b>Actual</b>
2012	0

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

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

Each year, thousands of new vegetable cultivars are released from 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 requirements of vegetable cultivars. Cultivars which were once the industry standard soon becomes obsolete due to these rapid changes. Thus, farmers need to be educated on modern

cropping systems that help improve and sustain their productivity.

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

To assist small farmers make better crop choices on their farms, six workshops, field days and on-farm demonstrations were conducted at the research and demonstration farms located at Alcorn State, Preston and Mound Bayou. The workshops and on-farm demonstrations allowed 250 farmers to gain the experience as it relates to proper crop selection and different production practices (cultivar, fertilizer and irrigation rates, planting densities, as crop rotation; cover cropping, mulching, tillage practices and pest control programs).

#### **Results**

Results from the questionnaires conducted after the workshops indicated that approximately 72% of the participants that attended the workshops are now making better crop choices, because of the knowledge gained from previous workshops; hence, growing better quality crops. Furthermore, the results also revealed that 65% of the participants indicated that they practice different sustainable production practices, such as, cover cropping, mulching, minimum tillage practice and crop rotation on their farms as a result of previous workshops conducted by ASUEP.

#### **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 #4**

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

Increase percentage of participants to improve product handling and sanitation.

##### **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>
2012	0

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

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

A sanitation program is as good as the attitude, willingness, and efforts of its people. The importance of proper post-harvest handling techniques for horticultural crops is vital. Concerns about food safety when handling fresh fruits and vegetables have increased over the past decade which is why the most important aspect of a sanitation program is ongoing farming operation. It is essential that the full meaning of sanitation and its wide economic scope be accepted by everyone concerned in the food system. Therefore, producers must be trained on Best Management Production that includes appropriate sanitation principles, product handling practices, manufacturing controls, and personal hygiene practices.

### **What has been done**

Eight workshops on quality control, sanitation, post-harvest handling and crop proper production practices were conducted at the Alcorn State University Vegetable Processing Facility, in Marks MS and during other ASUEP programming activities. A total of six hundred and fifty (650) farmers attended the workshops. In addition, farmers were also educated on environmental factors such as soil type, temperature, frost, and rainy weather at harvest time, because the aforementioned factors can have an adverse effect on storage life and quality of the produced.

### **Results**

Results of the questionnaire conducted after the workshops indicated that majority (70%) of participants have adopted product handling and sanitation technology, and sustainable farming operations on their farms.

## **4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
102	Soil, Plant, Water, Nutrient Relationships
205	Plant Management Systems
501	New and Improved Food Processing Technologies

### **Outcome #5**

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

Increase percentage 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
2012	0

### 3c. Qualitative Outcome or Impact Statement

#### Issue (Who cares and Why)

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

#### What has been done

Vegetable trials studies have been conducted at the Alcorn Experiment Station and other off-campus Extension/Research Centers in an effort to identify vegetables with high income potential that will adapt to the region. To assist small farmers make better crop choices on their farms five workshops and three on-hand training activities were conducted at the research and demonstration farms located at Alcorn State, Preston and Mound Bayou, and at farmers' fields during extension programming activities. The workshops were used to educate 800 farmers including youths on proper crop selection and different production practices (cultivar, fertilizer and irrigation rates, planting densities, and pest control programs).

#### Results

Questionnaires after the workshops indicated that approximately 70% of the participants that 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

### Outcome #6

#### 1. Outcome Measures

Increase percentage of program participants to improve 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
2012	0

### 3c. Qualitative Outcome or Impact Statement

#### Issue (Who cares and Why)

The implementations of Best Management Practices (BMP) are critical in crop production. BMPs are farming methods that assure optimum plant growth and minimize adverse environmental effects. Therefore, the determination of BMPs for sustainable crop production will require among others information on soil testing, integrated pest management, variety selection, limited tillage, irrigation, cover cropping and crop rotation. No single set of BMPs applies in all situations. The best set of practices for a specific cropping situation will depend on individual circumstances; thus, management practices differ according to the needs, wants and resources available to farmers. However, there is a need to educate farmers on BMPs to help them improve and sustain their productivity.

#### What has been done

Vegetables are produced in a dynamic biological system that must be adequately understood by farmers in order to produce quality produce. To this end, Alcorn State University Extension Program (ASUEP) specialists and educators utilized current research and information in conducting a series of workshops, field days and farm tours for farmers wishing to gain an understanding of how to make environmentally appropriate decisions related to plant selection, soil management, plant maintenance, pest and nutrient management. A total of 950 participants attend the events and activities.

#### Results

Results from the questionnaire administered at the training events revealed that 90% of the participants anticipate taking action, or making changes on their crop production program based on the information received from the training workshops. The results, also, indicated that majority of the farmers (80%) anticipate adopting IPM practices based on the training workshops. Additionally, 78% of the participants indicated that they use cover crop and crop rotation to maintain soil fertility, and weed control measures. Results, also, revealed that 85% conducted soil tests prior to planting.

### 4. Associated Knowledge Areas

KA Code	Knowledge Area
501	New and Improved Food Processing Technologies

## **Outcome #7**

### **1. Outcome Measures**

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

### **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>
2012	226

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

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

Limited resource producers often times lack the 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 and want allow the livestock to have good grazing conditions.

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

Through collaborative efforts of ASU-EP, MSU-ES & NRCS we were able to implement workshops on rotational grazing, winter/summer pastures, and fertility requirements of soils and growing forage for hay. Forage Field?s Day along with a tour of conservation practices was conducted to demonstration opportunities to enhance livestock production for small producers.

#### **Results**

After evaluation of workshops, field?s day and tour, 70% of participants indicated that they were using these practices or had plans to implement practices on their farms in the future. Through these efforts 226 producers gained knowledge and training as well as change in action on forage management, weed control, and nutrient importance of pasture grasses.

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

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

## **Outcome #8**

### **1. Outcome Measures**

Increase percentage 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>
2012	10

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

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

Producers often have inferior herd genetics from the lack of quality breeding stock. The knowledge and resources to improve genetics have not been applied to livestock operations which lead to poor animals for market.

Most producers have not planned nor have the resources for the breeding season that 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 times don't have the resources and knowledge to make decision using artificial insemination that will excel in traits that the producer needs- high weaning, exceptional carcass quality and good maternal characteristics.

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

Training/demonstrations with artificial insemination being the focus was conducted in which producers attended and gain knowledge and training on artificial insemination and estrus synchronization best management practices. Swine producers gained knowledge on genetics improvement during workshop/tour of the Swine Center for Excellent. The artificial insemination facilities and procedures were translated to participants. Selection of breeding stock workshop provided training needed to improve herd through natural breeding system. Information on genetics improvement was disseminated to limited resource producers and farm families through fact sheets, workshops, and radio.

#### **Results**

Two livestock producers have integrated artificial insemination into their cattle operation from the result of the training. Overall success rate for conception was 95%; only two animals did not conceive using artificial insemination. Through evaluation and farm visits, the five goat producers that were using artificial insemination has continued to implement these practices and had sufficiently improved herd genetics over the last four breeding seasons. Another nine goat producer was to begin artificial insemination during the next breeding. Some producers indicated that they were going to receive more training and begin the process in the future. Nineteen swine producers upgraded herd through purchasing superior animals that has increase chances of receiving premium price for market animals. Through these efforts over 165 people gained knowledge and 25% of participants changed action within their operation. All though most of the producers understood the need for improvement; they were about 40% reluctant due to the lack of knowledge, training, and experience in artificial insemination.

#### 4. Associated Knowledge Areas

KA Code	Knowledge Area
303	Genetic Improvement of Animals

#### Outcome #9

##### 1. Outcome Measures

Increase percentage of farmers to adopt pasture systems for production and/or alternative livestock 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
2012	247

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

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

Small producers often times don't understand or don't have a farm plan in order to maximize their operation. Opportunities often exist for producers to develop other alternative enterprise that will supplement their farming income. Knowledge of pasture system using best management practice (BMP's) as a land management strategy has not been used

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

Small limited resource producers were provided information through workshops, field days and one

on one consultation on alternative enterprises with emphasis placed on pastured poultry, pastured swine and goat production, ASU Extension and Research team developed an action plan and also one-on-one consultation for an organization to begin a pastured swine operation.

### **Results**

Through evaluation and observation measures, 60 % of participants were considering an alternative enterprise for their present operation. Evaluations also indicated that 30% had some type of pasture system for livestock on their farm. About 50% of the participants indicated that they understood the need for pasture systems and would be implementing these systems in their operation.

Eighty-seven (87) youth participated in field day and demonstration in which pastured poultry was promoted as an alternative enterprise. Through evaluation five youth indicated that they were raising pastured poultry and fifteen (15) youth indicated that they were planning to begin raising pastured poultry in the near future.

After Pastured Pork field's day, farm visits, and tours six new pastured pork producers were beginning and two additional people were considering starting in the near future. Mendenhall Ministries pastured pork operation was able to follow and implement recommendations on raising pastured pork and have expanded their operation by 10% over the last year. Over 285 people received or gained knowledge on pasture systems and 25% implemented these systems on their farm.

## **4. Associated Knowledge Areas**

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

### **Outcome #10**

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

Decrease in percentage of input cost of livestock production with the implementation of pasture systems for livestock production or best management 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>
2012	8

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

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

Producers often are reluctant to apply new technology that will improve their operation; this is because they are accustomed to and feel more comfortable in doing and using practices that they have used over the years. Pasture-raised animals can add quality to animals that create niche markets for pasture raised animals.

Small Producers often times don't understand or don't use best management practices (BMPs) as a land management strategies that 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 potential adverse effects of land management practices from all locations within a watershed. Producers should use best management practices that include soil and water conservation practices, other management techniques and social actions developed for a particular region as effective and practical tools for environmental protection

### **What has been done**

Knowledge of best management practices of management, nutrition, herd health, and reproductive performance was presented and taught to producers during field days, personal contacts, bulletins and demonstrations. 460 producers and potential producers received educational programming through workshops and seminars on Rotational grazing, Best Management Practices, Reproductive performance and Forage Requirements.

### **Results**

One hundred twenty-five limited resource producers indicated they were using rotational grazing and following BMP guidelines in their operation. Thirty percent of producers indicated that rotational grazing and BMPs would be implemented in to their farming plan. Sixty percent of producers indicated interest in applying the techniques learned through activities. Limited resource producers used some best management practices that increased the quality of animals raised and has seen some economic benefits. One hundred thirty one limited resource producers and farm families were adapting new management techniques.

## **4. Associated Knowledge Areas**

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

## **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**

Personnel were the contributing factor as to why the planned program did not address all stated outcomes. Researchers were on extended sick leave and one contributing researcher died April 2011. Also, the availability of grant funds reduced research efforts and educational programs. It is evident that this planned program area had too many outcomes to address and several outcomes have been combined or eliminated for 2012.

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

### **Evaluation Results**

- Limited-resource farmers are adopting sustainable vegetable production practices.
- There is an increased interest in community and container gardening.
- Limited-resource farmers need farmer markets and other direct outlets to market their produce.
- Limited-resource farmers are increasing their net farm income by producing syrup.

### **Key Items of Evaluation**

Limited-resource farmers are interested in alternative crop production (e.g., syrup production) and alternative marketing strategies.