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

**Program # 4**

**1. Name of the Planned Program**

Food Safety

☑ Reporting on this Program

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

1. Program Knowledge Areas and Percentage

| KA Code | Knowledge Area | %1862 Extension | %1890 Extension | %1862 Research | %1890 Research |
|---|---|---|---|---|---|
| 711 | Ensure Food Products Free of Harmful Chemicals, Including Residues from Agricultural and Other Sources | | 50% | | 0% |
| 712 | Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins | | 50% | | 0% |
| | **Total** | | 100% | | 0% |

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

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

| Year: 2014 | Extension | | Research | |
|---|---|---|---|---|
| | 1862 | 1890 | 1862 | 1890 |
| **Plan** | 0.0 | 2.0 | 0.0 | 2.0 |
| **Actual Paid** | 0.0 | 1.0 | 0.0 | 0.0 |
| **Actual Volunteer** | 0.0 | 0.0 | 0.0 | 0.0 |

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

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

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

### 1. Brief description of the Activity

Improved methods for produce handling, processing and storage were developed. New bio-pesticides were discovered and tested. Judicious use of chemicals on agricultural crops were encouraged. Toxic residues will be compared. Animal waste was converted into a slow-release and environmentally-friendly manure. Educational sessions were conducted in food safety, good agricultural practices, good handling practices, quality control, hazard analysis and critical control points, fresh produce packaging and value-added production.

The processing plant served as a training laboratory where limited-resource farmers will receive hands-on experience on the activities associated with value-added processing and packaging of foods. Research outcomes and recommendations will be disseminated in educational workshops, field demonstrations, printed educational materials including on-line ASU Extension publications, field days, and professional journals. Research results were presented at annual meetings of professional societies.

### 2. Brief description of the target audience

The target audience consisted of Area Extension educators, small limited-resource farmers, and the scientific community.

### 3. How was eXtension used?

eXtension was not used in this program

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

### 1. Standard output measures

| 2014 | Direct Contacts Adults | Indirect Contacts Adults | Direct Contacts Youth | Indirect Contacts Youth |
|---|---|---|---|---|
| **Actual** | 2500 | 3000 | 1000 | 1500 |

### 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 | 2 | 3 |
|---|---|---|---|

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

**Output Target**

**Output #1**

**Output Measure**

- Workshops will be conducted to educate farmers on the importance of producing safe food through the use of IPM.

| Year | Actual |
|---|---|
| 2014 | 0 |

**Output #2**

**Output Measure**

- Workshops will be conducted to educate farmers on the importance of producing safe food through the use of Good Agriculltural Practices (GAP).

| Year | Actual |
|---|---|
| 2014 | 0 |

**Output #3**

**Output Measure**

- Field days will be conducted to demonstrate the use of Integrated Pest Management (IPM).

| Year | Actual |
|---|---|
| 2014 | 0 |

**Output #4**

**Output Measure**

- Field days will be conducted to demonstrate the use of Good Agriculltural Practices (GAP).

| Year | Actual |
|---|---|
| 2014 | 0 |

### V(G). State Defined Outcomes

## V. State Defined Outcomes Table of Content

| O. No. | OUTCOME NAME |
|---|---|
| 1 | The intended target audience will gain knowledge and awareness in growing farm products with free or acceptable levels of chemical residue, and safe processing and storage of food products. |

**Outcome #1**

**1. Outcome Measures**

The intended target audience will gain knowledge and awareness in growing farm products with free or acceptable levels of chemical residue, and safe processing and storage of food products.

**2. Associated Institution Types**

- 1890 Extension
- 1890 Research

**3a. Outcome Type:**

Change in Knowledge Outcome Measure

**3b. Quantitative Outcome**

| Year | Actual |
|---|---|
| 2014 | 37 |

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

**Issue (Who cares and Why)**
Most farmers rely heavily on spraying pesticides to reduce the damage from pests and diseases. Maintaining high level of agricultural productivity and profitability while reducing synthetic chemical pesticide use, presents a significant challenge. Therefore, proper care and maintenance of agricultural productivity requires knowledge that emphasize not only cultural and biological controls (organic farming) as the main defense against pests but include the judicious use of synthetic chemical pesticides. This knowledge begins with Integrated Pest Management (IPM.) or non-chemical usage (organic production). IPM is a combined approach of crop management to solve ecological problems when applied in agriculture. A key need for IPM development and adoption is to create public awareness and understanding of IPM, including health, environmental, and economic impacts through education programs. Therefore, workshops was focused on educating farmers on the principles and practices of IPM and organic.

**What has been done**
Fifteen hands-on training workshops on IPM/organic farming practices, quality control, sanitation and post-harvest handling were conducted for our target audience at Alcorn State University demonstration centers located in Mound Bayou, Preston, Marks, and Lorman and also at participating farmer's fields. Three hundred and seventy (370) farmers and youths attended the training workshops. The trainings utilized the IPM training materials developed through the need assessment questionnaires. The training material contained information on systems approach to IPM practices such as biological, cultural, chemical, physical/mechanical and promotion of biodiversity. The training materials also included strategies for building and maintaining soil fertility, organic pest management, cover cropping and crop rotation. Thus, 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 weed control measures and also as means of maintaining soil fertility. In addition, farmers were also educated on environmental factors such as soil type, temperature, frost, and rainy weather at harvest because the aforementioned factors can have an adverse effect on storage life and quality of the produced.

**Results**

The 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 3acres (5%), up to 10 acres (40%), 11-25acres (35%) and more than 25acres (20%). Majority of the participants (84%) reported that they receive just a fraction of their annual income from the farm. The primary crops grown are southern peas, okra, melons and green (mustard, turnips, collards and kale). Retrospective post surveys were used to determine the effectiveness of each training program. The overall participant?s level of knowledge was increased in all areas of instruction Ninety percent indicated that they are taking action or making changes on their pest management program based on the information received from the training workshops; 80% use of low impact pesticides, 70% mechanical or physical control techniques, 65% cultural control techniques, 55% biological control. Additionally, 78% of the participants indicated using cover crop and crop rotation to maintain soil fertility and also for weed control measures.

**4. Associated Knowledge Areas**

| KA Code | Knowledge Area |
|---|---|
| 711 | Ensure Food Products Free of Harmful Chemicals, Including Residues from Agricultural and Other Sources |
| 712 | Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins |

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

**External factors which affected outcomes**

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

**Brief Explanation**

{No Data Entered}

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

**Evaluation Results**

90% indicated that they are taking action or making changes on their pest management program based on the information received from the training workshops; 80% use of low impact pesticides, 70% mechanical or physical control techniques, 65% cultural control techniques, 55% biological control. Additionally, 78% of the participants indicated using cover crop and crop rotation to maintain soil fertility and also for weed control measures.

## Key Items of Evaluation

CIPP Model is a social systems model applied to program evaluation. CIPP stands for context evaluation, input evaluation, process evaluation, product evaluation.