

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

**Program # 6**

**1. Name of the Planned Program**

Industry-wide emerging issues

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

1. Program Knowledge Areas and Percentage

| KA Code | Knowledge Area   | %1862 Extension | %1890 Extension | %1862 Research | %1890 Research |
|---------|--|-----------------|-----------------|----------------|----------------|
| 111     | Conservation and Efficient Use of Water                  |                 |                 | 5%             | 0%             |
| 112     | Watershed Protection and Management                      |                 |                 | 5%             | 0%             |
| 202     | Plant Genetic Resources                                  |                 |                 | 0%             | 10%            |
| 211     | Insects, Mites, and Other Arthropods Affecting Plants    |                 |                 | 0%             | 10%            |
| 212     | Pathogens and Nematodes Affecting Plants                 |                 |                 | 0%             | 10%            |
| 215     | Biological Control of Pests Affecting Plants             |                 |                 | 0%             | 10%            |
| 216     | Integrated Pest Management Systems                       |                 |                 | 0%             | 30%            |
| 302     | Nutrient Utilization in Animals                          |                 |                 | 20%            | 0%             |
| 303     | Genetic Improvement of Animals                           |                 |                 | 20%            | 0%             |
| 308     | Improved Animal Products (Before Harvest)                |                 |                 | 10%            | 0%             |
| 402     | Engineering Systems and Equipment                        |                 |                 | 10%            | 0%             |
| 403     | Waste Disposal, Recycling, and Reuse                     |                 |                 | 10%            | 0%             |
| 601     | Economics of Agricultural Production and Farm Management |                 |                 | 20%            | 30%            |
|         | <b>Total</b>   |                 |                 | 100%           | 100%           |

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

1. Actual amount of FTE/SYs expended this Program

| Year: 2011               | Extension |      | Research |      |
|--------------------------|-----------|------|----------|------|
|                          | 1862      | 1890 | 1862     | 1890 |
| Plan                     | 1.0       | 0.0  | 2.0      | 1.5  |
| Actual Paid Professional | 0.0       | 0.0  | 5.0      | 1.5  |
| Actual Volunteer         | 0.0       | 0.0  | 0.0      | 0.0  |

2. Institution Name: Auburn University

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

| Extension           |                | Research       |                |
|---------------------|----------------|----------------|----------------|
| Smith-Lever 3b & 3c | 1890 Extension | Hatch          | Evans-Allen    |
| 0                   | 0              | 300000         | 0              |
| 1862 Matching       | 1890 Matching  | 1862 Matching  | 1890 Matching  |
| 0                   | 0              | 300000         | 0              |
| 1862 All Other      | 1890 All Other | 1862 All Other | 1890 All Other |
| 0                   | 0              | 0              | 0              |

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

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

| Extension           |                | Research       |                |
|---------------------|----------------|----------------|----------------|
| Smith-Lever 3b & 3c | 1890 Extension | Hatch          | Evans-Allen    |
| 0                   | 0              | 0              | 386704         |
| 1862 Matching       | 1890 Matching  | 1862 Matching  | 1890 Matching  |
| 0                   | 0              | 0              | 386704         |
| 1862 All Other      | 1890 All Other | 1862 All Other | 1890 All Other |
| 0                   | 0              | 0              | 0              |

**2. Institution Name:** Tuskegee University

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

| Extension           |                | Research       |                |
|---------------------|----------------|----------------|----------------|
| Smith-Lever 3b & 3c | 1890 Extension | Hatch          | Evans-Allen    |
| 0                   | 0              | 0              | 50000          |
| 1862 Matching       | 1890 Matching  | 1862 Matching  | 1890 Matching  |
| 0                   | 0              | 0              | 50000          |
| 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**

Research and extension projects were done to meet the industry's needs and address their immediate and urgent concerns. In 2011, we continued the project of Pond to Plate, working with the catfish industry. The catfish industry was facing serious challenges. The Pond to Plate project was developed to address system-wide issues for the catfish industry.

A program to assist limited minority farmers to supply selected fresh produce to Wal-Mart was initiated in 2011.

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

The agricultural commodity groups, industry groups, the producers, educators, researchers, extension specialists, agents, and the general public. In 2011, the major effort was devoted to the catfish industry.

**3. How was eXtension used?**

eXtension was not used in this program

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

**1. Standard output measures**

| 2011          | Direct Contacts Adults | Indirect Contacts Adults | Direct Contacts Youth | Indirect Contacts Youth |
|---------------|------------------------|--------------------------|-----------------------|-------------------------|
| <b>Actual</b> | 1100                   | 5500                     | 1050                  | 5500                    |

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

**Patent Applications Submitted**

Year: 2011

Actual: 0

**Patents listed**

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

**Number of Peer Reviewed Publications**

| 2011          | Extension | Research | Total |
|---------------|-----------|----------|-------|
| <b>Actual</b> | 0         | 0        | 0     |

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

**Output Target**

**Output #1**

**Output Measure**

- Industry concern is addressed.

| <b>Year</b> | <b>Actual</b> |
|-------------|---------------|
| 2011        | 1             |

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

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

| O. No. | OUTCOME NAME   |
|--------|--|
| 1      | Concerns of the industry under consideration are addressed satisfactorily. |

## **Outcome #1**

### **1. Outcome Measures**

Concerns of the industry under consideration are addressed satisfactorily.

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

- 1862 Research
- 1890 Research

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

Change in Condition Outcome Measure

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

| <b>Year</b> | <b>Actual</b> |
|-------------|---------------|
| 2011        | 1             |

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

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

The catfish industry was facing unprecedented challenges due to international competition and increases in costs of feed and energy. If left unattended, the catfish could have already exited the business entirely.

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

- Yield verification trials using best management practices on three catfish operations in West Alabama to determine efficiencies and lower cost of production.
- Biological and economic analysis of the in-pond raceway catfish production system that shows much promise as it provides much more control of the fish from start to finish than the traditional multiple-batch pond production systems that are the current standard practice.
- Several efforts are concentrated toward consistent high quality products and particularly our research efforts are focusing on the off-flavor and off-coloration issue in catfish fillets. The white fillet is most prized and the fillet with yellow streaks is less favored in the fresh market place. i) We have a data collection effort of farm pond management for harvested fish and an associated yellow fillet enumeration at the processing plant to determine the percentage of yellow fillets coming from the pond. This should provide us with clues as to how management affects yellow color collection in the fillet and allow us to plan research and trials to change management recommendations to reduce the yellow fillet issue at the farm level. ii) Laboratory analysis of causes of yellow coloration continues as well, where we are trying to experiment with several different washes to remove the yellow color through "washes". iii) Digital photographic measurement of color in catfish fillets continues and will allow us to discuss with catfish producers the potential of mechanization of the identification and sorting of fillet processes according to color ranges.
- A three prong approach attacking the virulent *Aeromonas hydrophila* infection using epidemiology investigations into the causes of this disease's spread and management to reduce

its transmission, diagnostic tool and vaccine development.

e) Retail scanner data analysis of fish and seafood products in 52 US cities is allowing us to understand the substitutability and complementarity between fish species in the market place and elasticity estimation so we can discuss with catfish processing companies how they can best place and price their products in specific US markets.

Scientists and outreach personnel worked with Wal-Mart representatives to organize limited resource in selling selected fresh produce to Wal-Mart warehouse in Alabama

### **Results**

Each project fits together in the pond-to-plate concept as they will fill our knowledge gaps and aid the US catfish industry in its transformation into a modern livestock industry that provides products that are competitive with imported fish products and meet high consumer expectations and standards. Major achievements include:

Demonstration of in-pond raceway system, implementation of best aquaculture practices, management and control of *Aeromonas* bacterial disease, and control of yellow flesh disease.

Several truck loads of watermelons, peas and greens were sold to Wal-Mart by limited resource farmer groups to promote locally grown produce.

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

| <b>KA Code</b> | <b>Knowledge Area</b>                                    |
|----------------|--|
| 111            | Conservation and Efficient Use of Water                  |
| 112            | Watershed Protection and Management                      |
| 202            | Plant Genetic Resources                                  |
| 211            | Insects, Mites, and Other Arthropods Affecting Plants    |
| 212            | Pathogens and Nematodes Affecting Plants                 |
| 215            | Biological Control of Pests Affecting Plants             |
| 216            | Integrated Pest Management Systems                       |
| 302            | Nutrient Utilization in Animals                          |
| 303            | Genetic Improvement of Animals                           |
| 308            | Improved Animal Products (Before Harvest)                |
| 402            | Engineering Systems and Equipment                        |
| 403            | Waste Disposal, Recycling, and Reuse                     |
| 601            | Economics of Agricultural Production and Farm Management |

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

### **External factors which affected outcomes**

- Natural Disasters (drought, weather extremes, etc.)
- Economy
- Appropriations changes
- Public Policy changes
- Government Regulations
- Competing Public priorities
- Competing Programmatic Challenges
- Other (Competing cheaper international supplies)

### **Brief Explanation**

International competition was very keen for the catfish industry. Catfish imports were significantly up in recent years, placing huge pressure to catfish producers and the catfish industry as a whole.

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

### **Evaluation Results**

Auburn university's research was the basis of the catfish industry. In recent years, the catfish industry has had many challenges because of increased feed prices, energy costs, and fierce international competition. Through the Pond to Plate project, the system wide measures were evaluated and implemented.

Minority limited resource farmers were able to form farmer groups/cooperatives that enable them to provide volume for the produce sold to Wal-Mart

### **Key Items of Evaluation**

Auburn University's research and extension efforts were the source of the start of the catfish industry in early 1980's. In recent years, the keen international competition, particularly cheap imports from China and the Vietnam, has placed huge pressure to the catfish industry. In the last a few years, Auburn University's research and extension effort is a direct force to save the industry. Through this Pond to Plate project, the catfish industry has gone through the hardest period of its history, and now getting out of the crisis becoming a stronger industry.

Trough the Wal-Mart initiative minority farmers will be able to have market access for their produce..