

V(A). Planned Program (Summary)

Program # 5

1. Name of the Planned Program

Improved Management Options to Improve Catfish Production Efficiencies and Lower Costs

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
302	Nutrient Utilization in Animals		20%		20%
307	Animal Management Systems		20%		20%
308	Improved Animal Products (Before Harvest)		20%		20%
601	Economics of Agricultural Production and Farm Management		15%		15%
602	Business Management, Finance, and Taxation		15%		15%
603	Market Economics		10%		10%
	Total		100%		100%

V(C). Planned Program (Inputs)

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

Year: 2010	Extension		Research	
	1862	1890	1862	1890
Plan	0.0	0.5	0.0	0.9
Actual	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

Conduct tank feeding trials
 Conduct field trials
 Conduct method demonstrations
 Publish results
 • Give presentations

Develop individual enterprise budgets for catfish producers
 Develop news articles on improving farm efficiency
 Develop producer workshop targeting efficiency improvements for producers
 Test various new feed formulations

2. Brief description of the target audience

•Catfish farmers throughout Arkansas •CountyExtension agents •Grocery store manager •Consumers • Commercial catfish producers • Interested potential producers • Commercial Bankers

V(E). Planned Program (Outputs)

1. Standard output measures

2010	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Plan	16	100	0	0
Actual	1130	3530	698	150

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

Patent Applications Submitted

Year: 2010
 Plan: 0
 Actual: 0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2010	Extension	Research	Total
Plan	2	3	
Actual	2	3	0

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Number of Refereed Journal Articles

Year	Target	Actual
2010	2	9

Output #2

Output Measure

- Number of Abstracts Published

Year	Target	Actual
2010	6	28

Output #3

Output Measure

- Number of Presentations at Scientific Meetings

Year	Target	Actual
2010	8	26

Output #4

Output Measure

- Number of Trade Magazine Articles

Year	Target	Actual
2010	3	8

Output #5

Output Measure

- Number of Catfish Farms Adopting Recommendations

Year	Target	Actual
2010	97	210

Output #6

Output Measure

- Number of Catfish Acres Using Recommendations

Year	Target	Actual
2010	16700	26500

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	Number of producers willing to test successful ingredients or feeding strategies on a commercial scale
2	Number of Arkansans Gaining Access to and benefitting from Catfish Management Information
3	Number of diets with new ingredients that are commercially available, or number of new feeding strategies implemented by industry
4	Number of farmers and stores gaining information, adopting recommendations, and increasing sales of catfish

Outcome #1

1. Outcome Measures

Number of producers willing to test successful ingredients or feeding strategies on a commercial scale

2. Associated Institution Types

- 1890 Extension
- 1890 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	3	25

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Catfish feed costs soared beginning in 2008, reaching the highest levels ever and have remained at higher-than-average levels. Given that feed is the single largest cost component of catfish production, the increased costs of feed have dramatically increased costs of production. It has been difficult to pass these cost increases through to end consumers given market structures and conditions, and farm-level profits have decreased.

What has been done

A series of tank and pond trials have been conducted to test new, less-expensive feeds. In 2010, feeds with two protein levels with and without corn gluten feed were evaluated. The effort was a regional effort with UAPB and Mississippi State University conducting similar trials in multiple batch production with channel catfish and Auburn University evaluating the diets with hybrid catfish in single-batch production.

Results

The pond trials showed no difference due to the use of corn gluten feed. Production performance of larger, carryover fish was not different due to protein levels, but yield of fingerling catfish was significantly lower with the 28% protein diet as compared with the 32% protein diet.

4. Associated Knowledge Areas

KA Code	Knowledge Area
302	Nutrient Utilization in Animals

Outcome #2

1. Outcome Measures

Number of Arkansans Gaining Access to and benefitting from Catfish Management Information

2. Associated Institution Types

- 1890 Extension
- 1890 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	50	257

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Increasing feed costs have reduced profit margin and increased the need to improve production and financial management on farms.

What has been done

An existing multi-stage mathematical programming model of catfish production was extended to include cash flow, lending, and repayment constraints and activities for various farm sizes and levels of equity. An intensive financial management training module was developed and offered in Arkansas.

Results

Cash flow constraints affected the optimal management plan for catfish farms, with greater changes occurring in the optimal plans for smaller farms. New startup catfish farms would improve cash flow (but not profits) by purchasing large stockers for Year 1, but would need to transition to other management plans to maximize profits in subsequent years. More than 170 catfish farmers participated in the intensive training module on intensive financial management.

4. Associated Knowledge Areas

KA Code	Knowledge Area
601	Economics of Agricultural Production and Farm Management

Outcome #3

1. Outcome Measures

Number of diets with new ingredients that are commercially available, or number of new feeding strategies implemented by industry

2. Associated Institution Types

- 1890 Extension
- 1890 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	1	25

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Catfish feed costs soared beginning in 2008, reaching the highest levels ever and have remained at higher-than-average levels. Given that feed is the single largest cost component of catfish production, the increased costs of feed have dramatically increased costs of production. It has been difficult to pass these cost increases through to end consumers given market structures and conditions, and farm-level profits have decreased.

What has been done

Presentations have been made at catfish farmer meetings throughout the year. Written reports have been published in trade association, and extension newsletters. Individual consultations have been made in response to requests for information from a variety of sources.

Results

Approximately 25% of catfish farmers in Arkansas have adopted the feed formulations that demonstrated the most favorable economic outcomes.

4. Associated Knowledge Areas

KA Code	Knowledge Area
302	Nutrient Utilization in Animals

Outcome #4

1. Outcome Measures

Number of farmers and stores gaining information, adopting recommendations, and increasing sales of catfish

2. Associated Institution Types

- 1890 Extension
- 1890 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	18	237

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

The contraction of the catfish industry over the last several years has resulted in negative economic effects on local economics and communities.

What has been done

Presentations have been made at catfish farmer meetings throughout the year. Written reports have been published in trade association, and extension newsletters. Individual consultations have been made in response to requests for information from a variety of sources.

Results

Catfish farmers remaining in the business have implemented changes in their management as a result of extension programming. Others are preparing new business plans with the assistance of UAPB personnel.

4. Associated Knowledge Areas

KA Code	Knowledge Area
603	Market Economics

V(H). Planned Program (External Factors)

External factors which affected outcomes

- Natural Disasters (drought, weather extremes, etc.)
- Economy
- Public Policy changes
- Competing Public priorities
- Competing Programmatic Challenges

Brief Explanation

V(I). Planned Program (Evaluation Studies and Data Collection)

1. Evaluation Studies Planned

- During (during program)

Evaluation Results

Key Items of Evaluation