

V(A). Planned Program (Summary)

Program # 16

1. Name of the Planned Program

Aquaculture Alternatives in Arkansas

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		10%		10%
307	Animal Management Systems		40%		40%
308	Improved Animal Products (Before Harvest)		10%		10%
311	Animal Diseases		10%		10%
602	Business Management, Finance, and Taxation		10%		10%
603	Market Economics		10%		10%
806	Youth Development		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	1.0	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

Compile existing information on alternative aquaculture crops, budgets and markets for those crops. Disseminate the information through newsletters, fact sheets, presentations, and individual contacts. Year 1. Fact sheet on aquaculture alternatives. Field day poster presentation on alternative species. Year 2. Update fact sheet on small scale catfish production. Revise fact sheet on baitfish budgets. Year 3. Revise fact sheet on holding fish for sale. Year 4. Revise fact sheet on using existing ponds for fish production. Year 5. Revise fact sheet on cleaning fish for sale.

Determine basic nutrient requirements for alternative species such as largemouth bass, and test feed additives (such as prebiotics) in these species to determine their potential inclusion in practical diets.

Provide 4-H approved youth fishing education program materials to county agents. Maintain a youth fishing trailer and train agents in its use. Also add fishing education module to the trailer for county agents to use. Work with 4-H and county agents directly to implement new or improved sportfishing and aquatic curriculums, which include baitcasting and reel into sportfishing competitions. Organize and conduct workshops through CE agents that deal with aquatic education and 4-H O'Ramas activities. Continue to provide assistance with county, regional, and state O'Ramas. Two types of systems will be set up; one with very low technology and a second with better technology. Raise all tilapia needed for the schools during the summer and overwinter broodstock for spawning the following year. Some small fish should also be overwintered to re-supply systems that fail.

Data collection for the program is completed. This consisted of two years of weekly and monthly water quality sampling in four commercial catfish farms and three ponds on each farm, followed by the same protocol for four commercial baitfish farms. The program is in its final year, which will be used to analyze and interpret the data for publications and use by extension personnel. A correlation analysis will be used between the ten parameters measured to find relationships. Other analyses will look at the farm management practices to find relationships between water quality and the practices.

2. Brief description of the target audience

County Extension faculty, existing fish farmers and potential farmers.

Youth

The target audience will be catfish and baitfish farmers and researchers of these production systems and associated water quality. Extension personnel will be also targeted to provide suggestions on analyses and presentation/dissemination of results to farmers.

V(E). Planned Program (Outputs)

1. Standard output measures

2010	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Plan	260	450	1000	200
Actual	69	164	0	0

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	0	1	
Actual	0	4	0

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Number of Peer Reviewed Journal Articles

Year	Target	Actual
2010	1	3

Output #2

Output Measure

- Number of Presentations

Year	Target	Actual
2010	2	6

Output #3

Output Measure

- Number of Published Abstracts

Year	Target	Actual
2010	2	5

Output #4

Output Measure

- Number of County Agents using the fishing education modules

Year	Target	Actual
2010	15	0

Output #5

Output Measure

- Number of teachers participating in aquaculture workshops

Year	Target	Actual
2010	20	0

Output #6

Output Measure

- Number of tilapia delivered to teachers

Year	Target	Actual
2010	1000	0

Output #7

Output Measure

- Number of teachers using tilapia

Year	Target	Actual
2010	10	0

Output #8

Output Measure

- Number of teachers receiving aquaculture education newsletter

Year	Target	Actual
2010	25	0

Output #9

Output Measure

- Number of schools visited annually

Year	Target	Actual
2010	5	0

Output #10

Output Measure

- Number of students participating in aquaculture events and educational programs

Year	Target	Actual
2010	1500	0

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	Number of Arkansans adopting sound management practices
2	Number of Arkansans Increasing Efficiency, and Profitability
3	Number of researchers and producers gaining knowledge from results from presentations and publications
4	Number of researchers that will cite results
5	Number of producers that will modify feeding and management
6	Percent decrease in cool weather mortalities and decrease in off-flavor
7	Percent of cool weather plankton-related problems that will decrease
8	Percent of warm weather plankton-related problems that will decrease
9	Number of producers willing to test successful ingredients or feeding strategies on a commercial scale
10	Percent of diets with new ingredients that are commercially available, or number of new feeding strategies implemented by industry
11	Number of County Extension agents using the aquatic education fishing trailer for youth fishing activities
12	Number of students participating in events related to the aquatic education fishing trailer for youth fishing activities

Outcome #1

1. Outcome Measures

Number of Arkansans adopting sound management practices

2. Associated Institution Types

- 1890 Extension
- 1890 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	150	45

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
602	Business Management, Finance, and Taxation

Outcome #2

1. Outcome Measures

Number of Arkansans Increasing Efficiency, and Profitability

2. Associated Institution Types

- 1890 Extension
- 1890 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	50	33

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
602	Business Management, Finance, and Taxation

Outcome #3

1. Outcome Measures

Number of researchers and producers gaining knowledge from results from presentations and publications

2. Associated Institution Types

- 1890 Extension
- 1890 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	100	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
307	Animal Management Systems

Outcome #4

1. Outcome Measures

Number of researchers that will cite results

2. Associated Institution Types

- 1890 Extension
- 1890 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	2	1

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
307	Animal Management Systems

Outcome #5

1. Outcome Measures

Number of producers that will modify feeding and management

2. Associated Institution Types

- 1890 Extension
- 1890 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	1	2

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
302	Nutrient Utilization in Animals

Outcome #6

1. Outcome Measures

Percent decrease in cool weather mortalities and decrease in off-flavor

2. Associated Institution Types

- 1890 Extension
- 1890 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	10	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
307	Animal Management Systems

Outcome #7

1. Outcome Measures

Percent of cool weather plankton-related problems that will decrease

2. Associated Institution Types

- 1890 Extension
- 1890 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	50	50

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
307	Animal Management Systems

Outcome #8

1. Outcome Measures

Percent of warm weather plankton-related problems that will decrease

2. Associated Institution Types

- 1890 Extension
- 1890 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	10	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
307	Animal Management Systems

Outcome #9

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	4	4

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
302	Nutrient Utilization in Animals

Outcome #10

1. Outcome Measures

Percent 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	75	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
302	Nutrient Utilization in Animals

Outcome #11

1. Outcome Measures

Number of County Extension agents using the aquatic education fishing trailer for youth fishing activities

2. Associated Institution Types

- 1890 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	25	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
806	Youth Development

Outcome #12

1. Outcome Measures

Number of students participating in events related to the aquatic education fishing trailer for youth fishing activities

2. Associated Institution Types

- 1890 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	1300	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
806	Youth Development

V(H). Planned Program (External Factors)

External factors which affected outcomes

- Natural Disasters (drought, weather extremes, etc.)

Brief Explanation

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

1. Evaluation Studies Planned

- Before-After (before and after program)
- During (during program)

Evaluation Results

Key Items of Evaluation