

V(A). Planned Program (Summary)

Program # 5

1. Name of the Planned Program

Aquaculture Health

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
311	Animal Diseases	35%		85%	
312	External Parasites and Pests of Animals	15%		0%	
313	Internal Parasites in Animals	15%		10%	
315	Animal Welfare/Well-Being and Protection	35%		5%	
	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	0.4	0.0	0.7	0.0
Actual	0.3	0.0	0.4	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
8061	0	0	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
8061	0	0	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
0	0	350872	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

- Develop diagnostic tools to detect and monitor diseases in commercially raised channel catfish and determine virulence factors associated with those diseases.
- Develop fish health management procedures to control economically important diseases of channel catfish.
- Determine factors associated with emerging diseases in pond-raised channel catfish.
- Use epidemiological methods to investigate new and emerging diseases, and to identify environmental and management factors that influence the onset and severity of disease outbreaks.
- Researchers will develop referred journal articles and give scientific presentations at professional societies and at producer meetings.
- Extension specialists will conduct workshops and seminar programs. Extension publications and newsletters will aid in transferring new knowledge to producers. Farm visits will help producers adapt new procedures on farms.

2. Brief description of the target audience

The target audience for this program is producers of catfish, crayfish, and freshwater prawns and related industry personnel.

V(E). Planned Program (Outputs)

1. Standard output measures

2010	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Plan	211	883	0	0
Actual	671	112	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	1	0	
Actual	0	0	0

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Number of producers attending seminars, workshops, short courses, and demonstrations.

Year	Target	Actual
2010	200	131

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	Number of producers adopting new technologies, strategies, or systems.
2	Number of producers improving fish health management production efficiency.

Outcome #1

1. Outcome Measures

Number of producers adopting new technologies, strategies, or systems.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	40	26

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

It has been estimated that commercial catfish producers lose up to 24% of their fish each year to various causes. The USDA APHIS National Animal Health Monitoring Survey in 2003 reported that almost 73% of foodfish operations lost foodfish to diseases in 2003.

What has been done

Diagnostic services and research projects were conducted with the objective of improving production efficiencies and profitability of catfish farming. The goals of these projects were to provide diagnostic support and develop methods and technologies to diminish the impact of significant diseases affecting the profitability of catfish production. Data from all experiments were analyzed and used to make recommendation to farmers.

Results

In 2009 and 2010, the ARDL processed 1291 diagnostic cases and 2206 water samples and has initiated a VHS testing program, which was requested by producers and funded via the Mississippi Board of Animal Health. Research efforts in fish health management has lead to the development of diagnostic tools for the identification of new emerging diseases, risk assessment models to predict the occurrence of disease related losses, and fish health management practices that have increased production efficiency. Real-time PCR tests have been developed and validated for the detection of significant catfish pathogens in pond environments and fish tissues. Validated procedures have been integrated into disease surveillance and diagnostic programs and have been used to develop risk assessment models for proliferative gill disease and trematode infections.

4. Associated Knowledge Areas

KA Code	Knowledge Area
311	Animal Diseases
312	External Parasites and Pests of Animals
313	Internal Parasites in Animals
315	Animal Welfare/Well-Being and Protection

Outcome #2

1. Outcome Measures

Number of producers improving fish health management production efficiency.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	30	31

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
311	Animal Diseases
312	External Parasites and Pests of Animals
313	Internal Parasites in Animals
315	Animal Welfare/Well-Being and Protection

V(H). Planned Program (External Factors)

External factors which affected outcomes

- Government Regulations
- Competing Programmatic Challenges

Brief Explanation

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

1. Evaluation Studies Planned

- Retrospective (post program)
- Case Study

Evaluation Results

Key Items of Evaluation