

Improving Hatchery Production Efficiency

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V(A). Planned Program (Summary)

1. Name of the Planned Program

Improving Hatchery Production Efficiency

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
301	Reproductive Performance of Animals		80%		80%
307	Animal Management Systems		20%		20%
Total			100%		100%

V(C). Planned Program (Inputs)

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

Year: 2008	Extension		Research	
	1862	1890	1862	1890
Plan	0.0	0.4	0.0	0.2
Actual	0.0	0.3	0.0	0.5

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	62285
1862 Matching	1890 Matching	1862 Matching	1890 Matching
0	45099	0	205485
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

We wanted to see if survival and growth of sunshine bass larvae would be improved by including rotifers (*Brachionus plicatilis*), microcyst *Artemia* nauplii, and standard *Artemia* nauplii in sequence during a production run. This experiment was comprised of three treatments with three replicates per treatment. Sunshine bass larvae, 4 dph (4.0 ± 0.1 mm SL), were stocked into 100-L recirculating tanks at a rate of 75 larvae/L. The first feeding treatment was rotifers (40/mL) followed by standard *Artemia* nauplii (8/mL). The second feeding treatment was microcyst *Artemia* nauplii (20/mL) followed by standard *Artemia* nauplii (8/mL). The third feeding treatment was rotifers (40/mL) followed by microcyst *Artemia* nauplii (4/mL) followed by standard *Artemia* nauplii (8/mL). By day 8, all of the feeding treatments were fed standard *Artemia* nauplii only. Average (SD) individual standard length of larvae was 9.08 (1.43) mm and ranged from 6.46 to 15.05 mm. Average length of larvae did not vary among treatments. Variability in survival among tanks was high. Survival ranged from 9% and 12% occurred in treatment two and the highest two survival rates (70% and 96%) occurred in treatment three. It appears that matching food size to larval size, as larvae grow, is likely to result in better survival. However, growth of larvae does not appear to improve similarly.

2. Brief description of the target audience

- Catfish farmers throughout Arkansas
- County Extension agents Hybrid striped bass fingerling producers Hybrid striped bass grow-out facility operators

V(E). Planned Program (Outputs)

1. Standard output measures

Target for the number of persons (contacts) reached through direct and indirect contact methods

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
Plan	8	50	0	0
2008	8	50	0	0

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

Patent Applications Submitted

Year	Target
Plan:	0
2008:	0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

	Extension	Research	Total
Plan	0	0	
2008	0	0	0

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

Number of Abstracts

Year	Target	Actual
2008	2	2

Output #2

Output Measure

Number of Presentations

Year	Target	Actual
2008	2	2

Output #3

Output Measure

Number of Refereed Journal Articles

Year	Target	Actual
2008	1	0

Output #4

Output Measure

Number of Popular Articles and Newsletter Articles

Year	Target	Actual
2008	0	0

V(G). State Defined Outcomes

O No.	Outcome Name
1	Number of Fingerling Producers That Learned What We Know
2	Number of Scientists That Learned What We Know
3	Number of Fingerling Producers That Use What We Know
4	Number of Grow-out Operations That Use What We Know
5	Percent of Increase in Hybrid Striped Bass Fingerlings Produced in Arkansas
6	Percent Increase in Hybrid Striped Bass Fingerlings Produced in Tanks
7	Number of Arkansans Gaining Access to Hybrid Catfish Information
8	Number of Arkansans Adopting Hybrid Catfish Production
9	Number of Arkansans Increasing Efficiency, Profitability Through Hybrid Catfish Production

Outcome #1

1. Outcome Measures

Not reporting on this Outcome for this Annual Report

2. Associated Institution Types

3a. Outcome Type:

3b. Quantitative Outcome

Year	Quantitative Target	Actual
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3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
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V(H). Planned Program (External Factors)

External factors which affected outcomes

Natural Disasters (drought, weather extremes, etc.)

Appropriations changes

Government Regulations

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

State Hatchery and Research personnel are using recommendations with good success.

Key Items of Evaluation

Spoke with personnel via email.