



United States
Department of
Agriculture

National
Agricultural
Statistics
Service

Animal and
Plant Health
Inspection
Service



**NATIONAL
AGRICULTURAL
STATISTICS
SERVICE**

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2010 GENERAL CATFISH MANAGEMENT REPORT

Stratum	POID	Tract	Attempted Contacts		
			Date	Time	Notes

Beginning Time
0001

BEGINNING TIME [Military]

INTRODUCTION

[Rephrase in your own words.]

The purpose of this inquiry is to collect information on catfish production for APHIS-National Animal Health Monitoring System. Your cooperation is very important in order to identify management practices, disease problems, and predation problems accurately. You may find it easier to answer some of the questions if you have records available. Individual reports are kept confidential.

Your response is voluntary and not required by law. However, your report is needed to make Regional and National estimates as accurate as possible.

PART I: FINGERLING PRODUCTION

Did this operation breed catfish, operate a hatchery, or raise fry to fingerlings during 2009? 1 Yes 3 No

Code
101

[IF NO, Skip to Part II, page 16]

SECTION A

BROODFISH and SPAWNING MANAGEMENT

1. Did this operation breed catfish for egg collection in 2009? 1 Yes 3 No

Code
102

[If NO, Skip to Part I, Section B, Page 4]

* 2. On January 1, 2010, what was your inventory of broodfish (fish to be used for breeding)?

Pounds
148

OR

Number of Broodfish
103

3. Of the January 1 broodfish inventory (Item 2), what percentage was from the following lines?

- a. NWAC103.
- b. Kansas.
- c. Goldkist/Harvest Select.
- d. Auburn.
- e. Blue catfish.
- f. Other channel catfish line (specify _____)
- g. Pond run channel catfish (fish selected from foodsize fish production ponds).

Percent
104 %
105 %
106 %
107 %
108 %
109 %
110 %
100%

TOTAL

4. Of the January 1 broodfish inventory (Item 2), what percentage was in the following age categories?

- a. Less than 3 years old.
- b. 3 – 4 years old.
- c. 5 years old.
- d. 6 years old.
- e. More than 6 years old.

Percent
111 %
112 %
113 %
114 %
115 %
100%

TOTAL

Now I want to ask questions about your broodfish during 2009

5. During 2009, what percentage of your broodfish was culled?

Percent	
116	%

[If NONE, Skip to Item 7]

6. Of the broodfish that were culled in 2009 (Item 5), what percentage was culled primarily due to:

Percent	
117	%
118	%
119	%
120	%
121	%
122	%
100%	

- a. Old age (too old)?
- b. Weight?
- c. Poor health?
- d. Poor reproductive success?
- e. Business or financial reasons?
- f. Poor appearance (conformation problems)?

TOTAL

7. During 2009, how many broodfish were lost on this operation due to disease, predation, or other problems?

Number
123

[If NONE, Skip to Item 9]

8. Of the broodfish lost in 2009 (Item 7), what percentage was lost to:

Percent	
124	%
125	%
126	%
127	%
128	%
129	%
130	%
131	%
132	%
100%	

- a. Enteric septicemia (ESC, hole-in-head disease)?
- b. Columnaris?
- c. Proliferative gill disease (PGD, hamburger gill disease)?
- d. Winter kill (fungus- Saprolegnia)?
- e. Visceral toxicosis of catfish (Spring disease)?
- f. Fighting?
- g. Predation?
- h. Other known causes? (specify _____)
- i. Unknown causes?

TOTAL

9. How often are broodfish usually fed during the following seasons?

- | | Daily | Every other day | Every third day | Less often than every third day | Other (specify) | |
|--|----------------------------|----------------------------|----------------------------|---------------------------------|----------------------------------|-----|
| a. Spring/early summer (pre-spawning/spawning) | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> | 3 <input type="checkbox"/> | 4 <input type="checkbox"/> | 5 <input type="checkbox"/> _____ | 133 |
| b. Mid-summer/fall (post-spawning)..... | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> | 3 <input type="checkbox"/> | 4 <input type="checkbox"/> | 5 <input type="checkbox"/> _____ | 134 |
| c. Winter..... | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> | 3 <input type="checkbox"/> | 4 <input type="checkbox"/> | 5 <input type="checkbox"/> _____ | 135 |

Code
133
134
135

10. What percent protein feed was primarily fed to your broodfish in 2009?

	Code
a. 28 percent.....	1
b. 32 percent.....	2
c. 35 percent.....	3
d. Other percent protein (specify: _____)	4

(Enter Code)

136

11. Does this operation stock forage fish in broodfish ponds as a supplemental food source for broodfish?..... 1 Yes

3 No

Code
137

IF YES, which of the following species are stocked as food sources for broodfish?

	1 <input type="checkbox"/> Yes	3 <input type="checkbox"/> No
a. Fathead minnows.....	<input type="checkbox"/> Yes	<input type="checkbox"/> No
b. Threadfin shad.....	<input type="checkbox"/> Yes	<input type="checkbox"/> No
c. Gizzard shad.....	<input type="checkbox"/> Yes	<input type="checkbox"/> No
d. Tilapia.....	<input type="checkbox"/> Yes	<input type="checkbox"/> No
e. Other (specify: _____)	<input type="checkbox"/> Yes	<input type="checkbox"/> No

Code
138
139
140
141
142

Now I'd like to ask about your spawning management.

12. During 2009, how many spawning ponds were used by this operation?.....

Ponds
143

13. For spawning ponds, how many years do you usually wait between:

- a. Draining and drying your ponds?.....
- b. Complete renovation?.....

Number of years
144
145

14. How many pounds of broodfish per acre are put into spawning ponds on this operation?.....

Pounds per acre
146

15. What is the usual ratio of female to male broodfish used in this operation's spawning ponds?.....

1 to 1 2 to 1 3 to 1 Other ratio

1 2 3 4

Code
147

SECTION B

HATCHERY MANAGEMENT

1. Does this operation have a hatchery for hatching catfish eggs?..... 1 Yes

3 No

Code
201

[IF NO, Skip to Section C, page 8]

2. Did this hatchery produce any catfish fry in 2009?..... 1 Yes

3 No

Code
202

[IF NO, Skip to Section C, page 8]

3. During 2009, how many egg masses (spawns), and if available, how many pounds of eggs, were brought to the hatchery for hatching?

Number of egg masses
203

a. Number of egg masses.....

Lbs. of eggs
204

b. Pounds of eggs.....

4. Which of the following best describes the treatment of egg masses before being placed into hatching troughs?

Code
1
2
3

a. Treat egg masses using betadyne (iodine compounds).....

b. Treat egg masses using other compound (specify: _____)

c. Do not treat egg masses.....

(Enter Code)

205

5. What is the primary source of water for the hatchery?

Code
1
2
3
4
5

a. Water from a well that was stored in a holding pond.....

b. Water from a creek or a watershed that was stored in a holding pond.....

c. Water directly from a well (ask Item 6).....

d. Mixture of water directly from a well and from a holding pond.....

e. Other (specify _____)

(Enter Code)

206

[IF ITEM 5 DOES NOT EQUAL C, Skip to Item 7.]

6. Before the water is used in the hatchery is it:

a. Degassed?..... 1 Yes 3 No

b. Heated?..... 1 Yes 3 No

Code
207
208

7. On average, how many gallons of water per minute flow through each hatching trough?.....

Gals per min
209

8. Do you use the following methods to keep water circulating in:

	Hatching troughs?	
a. Paddles?.....	1 <input type="checkbox"/> YES	3 <input type="checkbox"/> NO
b. Air stones?.....	1 <input type="checkbox"/> YES	3 <input type="checkbox"/> NO
c. Agitators?.....	1 <input type="checkbox"/> YES	3 <input type="checkbox"/> NO
d. Other methods?.....	1 <input type="checkbox"/> YES	3 <input type="checkbox"/> NO

Code
210
211
212
213

	Fry troughs?	
a. Paddles?.....	1 <input type="checkbox"/> YES	3 <input type="checkbox"/> NO
b. Air stones?.....	1 <input type="checkbox"/> YES	3 <input type="checkbox"/> NO
c. Agitators?.....	1 <input type="checkbox"/> YES	3 <input type="checkbox"/> NO
d. Other methods?.....	1 <input type="checkbox"/> YES	3 <input type="checkbox"/> NO

Code
214
215
216
217

9. What is the hardness of the water, in parts per million, used in the hatchery?.....

PPM
218

10. During 2009, did this operation add calcium to the water to maintain hardness?..... 1 Yes 3 No

Code
219

11. Does this operation use liquid oxygen in the hatchery to control dissolved oxygen?..... 1 Yes 3 No

Code
220

12. How many egg masses per hundred gallons were placed in hatching troughs in 2009?.....

Masses per 100 gallons
221

13. During 2009, how many times per day were egg masses in hatching troughs turned?.....

Times per day
222

14. What percentage of eggs brought to the hatchery survived to hatching in 2009?.....

Percent
223
%

15. Of the eggs that did not hatch, what percentage were lost to the following causes?.....

- a. Fungal infections.....
- b. Bacterial egg rot (or other bacterial infections).....
- c. Infertility.....
- d. Other known causes (specify: _____).....
- e. Unknown causes.....

Percent
224
225
226
227
228
100%

TOTAL.....

16. During 2009, were any of the following chemicals used to **prevent** fungal or bacterial infections in spawns in hatching troughs, and if so, how many times per day were eggs treated?

- a. Betadyne (iodine)..... 1 YES 3 NO
- b. Copper Sulfate..... 1 YES 3 NO
- c. Formalin..... 1 YES 3 NO
- d. Hydrogen peroxide..... 1 YES 3 NO
- e. Salt..... 1 YES 3 NO

Code
229
230
231
232
233

If yes, # times per day
234
235
236
237
238

17. During 2009, were any of the following chemicals used to **treat** eggs that had:

	Fungal infections?		Code	Bacterial infections?		Code
a. Betadyne (iodine).....	1 <input type="checkbox"/> YES	3 <input type="checkbox"/> NO	239	1 <input type="checkbox"/> YES	3 <input type="checkbox"/> NO	244
b. Copper Sulfate.....	1 <input type="checkbox"/> YES	3 <input type="checkbox"/> NO	240	1 <input type="checkbox"/> YES	3 <input type="checkbox"/> NO	245
c. Formalin.....	1 <input type="checkbox"/> YES	3 <input type="checkbox"/> NO	241	1 <input type="checkbox"/> YES	3 <input type="checkbox"/> NO	246
d. Hydrogen peroxide.....	1 <input type="checkbox"/> YES	3 <input type="checkbox"/> NO	242	1 <input type="checkbox"/> YES	3 <input type="checkbox"/> NO	247
e. Salt.....	1 <input type="checkbox"/> YES	3 <input type="checkbox"/> NO	243	1 <input type="checkbox"/> YES	3 <input type="checkbox"/> NO	248

Now I'm going to ask questions about your fry management.

18. During 2009, how many fry were hatched in this operation's hatchery?

Number
249

OF THESE FRY HATCHED, what percentage were:

- a. channel catfish?.....
- b. channel/blue hybrid catfish?.....
- c. blue catfish?.....
- TOTAL**.....

Percent
250 %
251 %
252 %
100%

19. How long were fry normally left in fry troughs during 2009?

- a. Release sac fry (not held in fry troughs).....
- b. 1 – 3 days past swim up.....
- c. 4 – 7 days past swim up.....
- d. More than 7 days past swim up.....

Code
1
2
3
4

(Enter Code)

20. What was the primary feed fed to fry in fry troughs during 2009?

- a. Catfish starter.....
- b. Salmon/trout starter.....
- c. Krill.....
- d. Other (specify _____)
- e. Nothing fed to fry in fry troughs.....

Code
1
2
3
4
5

(Enter Code)

[IF ITEM 20 = E (nothing fed), Skip to Item 22]

21. In a 24-hour period, how many times were fry in fry troughs fed?

Number
255

22. Which of the following best describes how often fry troughs are disinfected?

- a. Between batches of fry
- b. Annually
- c. Other
- d. Do not disinfect.

Code
1
2
3
4

(Enter Code)

256

23. What percentage of the fry produced by this operation in 2009 were:

- a. Sold?
- b. Stocked on your own operation?
- TOTAL**

Percent	
257	%
258	%
100%	

SECTION C

FRY/FINGERLING MANAGEMENT

1. During 2009, did your operation grow any fry to fingerlings? 1 Yes

3 No

Code
301

[If NO, Skip to Part II, page 16]

2. During 2009, did your operation place swim-up fry in raceways or tanks after fry troughs but prior to stocking them into fry/fingerling ponds? 1 Yes

3 No

Code
302

If YES, what was the average age of the fry, in days since hatching, when they were moved from the raceway or tank to the fry/fingerling ponds?

Days
303

* 3. During 2009, how many fry/fingerling ponds were used for production on this operation?

Ponds
304

a. What was the total water surface acres of the ponds that were used for fingerling production in 2009?

Acres
305

4. Of these fry/fingerling ponds (Item 3) how many were stocked with **fry hatched in 2009**?

Ponds
306

a. What was the total water surface acres of the ponds that were stocked with **fry hatched in 2009**?

Acres
307

5. How many fry were stocked into fry/fingerling ponds on this operation during:

a. 2008?

Pounds
380
381

or

Number
308
309

b. 2009?

or

6. During 2009, how many of the fry/fingerling ponds were stocked at the following rates?

a. Less than 100,000 fry per acre.

b. 100,000 – 149,000 fry per acre.

c. 150,000 – 199,000 fry per acre.

d. 200,000 or more fry per acre.

e. TOTAL [should equal Item 4].

Number of Ponds
310
311
312
313
314

7. Which of the following best describes the treatment of fry/fingerling ponds before stocking in 2009?

a. Drained and dried [ask Item 8].

b. Drained and poisoned [ask Item 8].

c. Poisoned but not drained.

d. Neither drained nor poisoned.

e. Other (specify: _____)

Code
1
2
3
4
5

(Enter Code)

315

[IF ITEM 7 DOES NOT EQUAL A or B, Skip to Item 9]

8. How many days do you normally wait between filling fry/fingerling ponds with water and stocking fry?

Days
316

9. How many years do you normally wait between completely renovating fry/fingerling ponds?

Years
317

10. Did you fertilize this operation's fry/fingerling ponds in 2009? 1 Yes 3 No

Code
318

[IF NO, Skip to Item 13]

11. How many days before stocking fry/fingerling ponds did you begin fertilizing the ponds?.....

Days
319

12. Which of the following best describes the primary fertilizer used in the fry/fingerling ponds?

- | |
|------|
| Code |
| 1 |
| 2 |
| 3 |
- a. Organic fertilizer (e.g. cottonseed, fish feed).....
 - b. Inorganic fertilizer (e.g. urea, ammonia nitrate).....
 - c. Combination of organic/inorganic fertilizers.....

(Enter Code)

320

13. After filling the fry/fingerling ponds with water, were any of the ponds treated to control insects in 2009? 1 Yes 3 No

Code
321

14. In parts per million, what was the average chloride level of the water in fry/fingerling ponds on this operation during summer?.....

PPM
322

15. Which of the following best describes the use of salt in fry/fingerling ponds on this operation during 2009?

- | |
|------|
| Code |
| 1 |
| 2 |
| 3 |
- a. Routinely add salt to maintain a desired chloride level.....
 - b. Add salt only in response to health problems.....
 - c. Do not add salt to fry/fingerling ponds.....

(Enter Code)

323

Now I want to ask you questions about fry/fingerling pond management after stocking with fry.

16. During 2009, which type of feed was primarily fed to fry before the acceptance of floating feeds?

- | |
|------|
| Code |
| 1 |
| 2 |
| 3 |
| 4 |
| 5 |
| 6 |
- a. Fines or meals.....
 - b. Crumbles.....
 - c. Pellets.....
 - d. Fry starter.....
 - e. Other (specify: _____).....
 - f. No feed provided.....

(Enter Code)

324

17. During 2009, how often were fry/fingerlings usually fed in the following seasons?

	At least twice daily	Once a day	Every other day	Other (specify)	Code
a. Spring	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/> _____	325
b. Summer	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/> _____	326
c. Fall	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/> _____	327
d. Winter	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/> _____	328

18. What percent protein floating feed was primarily fed to fry/fingerlings in 2009?

	Code	
a. 28 percent.	1	(Enter Code) <input type="text" value="329"/>
b. 32 percent.	2	
c. 35 percent.	3	
d. Other level (specify: _____)	4	

19. Which of the following best describes your primary method for regularly monitoring dissolved oxygen in fry/fingerling ponds during 2009?

	Code	
a. Automated sensors.	1	(Enter Code) <input type="text" value="330"/>
b. Hand monitor (oxygen meter)	2	
c. Other (specify: _____)	3	
d. Do not regularly monitor dissolved oxygen levels.	4	

20. How many horsepower of **fixed** aeration were used **per surface acre** of fry/fingerling ponds?

Horsepower
<input type="text" value="331"/>

21. Which of the following best describes the frequency of water quality testing in fry/fingerling ponds in 2009?

	Code	
a. At least once a month [ask Item 22].	1	(Enter Code) <input type="text" value="332"/>
b. Less than once a month.	2	
c. In response to health problems only.	3	
d. Not tested.	4	

[IF ITEM 21 DOES NOT EQUAL A, Skip to Item 23]

22. How many times per month were fry/fingerling ponds tested for the following water quality characteristics?

- a. Ammonia.....
- b. Chloride.....
- c. Nitrite.....

Times per month
333
334
335

Now I'm going to ask questions about fingerling health issues.

23. At this operation during 2009, were any fry vaccinated against enteric septicemia of catfish (ESC)?..... 1 Yes 3 No

Code
336

[If NO, Skip to Item 30]

24. What percentage of fry was vaccinated for ESC in 2009?.....

Percent
337 %

25. How many days after hatching were the fry usually vaccinated for ESC?.....

Days
338

26. Which of the following best describes how many of the fry **intended for grow-out** on your own operation were vaccinated against ESC during 2009?

- a. All fry intended for grow out on operation.....
- b. A portion of the fry.....
- c. None of the fry.....
- d. No fry were grown-out on this operation.....

Code
1
2
3
4

(Enter Code)

339

27. How many of the fry **intended for sale** as fingerlings were vaccinated against ESC during 2009?

- a. All fry intended for sale.....
- b. A portion of the fry for sale based on customer request.....
- c. A portion of the fry for sale regardless of customer request.....
- d. None of the fry intended for sale were vaccinated.....
- e. No fry were for sale.....

Code
1
2
3
4
5

(Enter Code)

340

28. During 2009, did you have any outbreaks of ESC in ponds that had fingerlings vaccinated for ESC?..... 1 Yes 3 No

Code
341

IF YES, was any medicated feed fed to these vaccinated fish?..... 1 Yes 3 No

Code
342

29. Would you say that the performance of fingerlings in the ponds with ESC vaccinated fish, when compared to fingerlings in ponds without ESC vaccinated fish, was better, the same, or worse for:

	Better	Same	Worse	Don't Know
a. SURVIVAL rates?.....	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>
b. GROWTH rates?.....	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>

Code
343
344

I am now going to ask similar questions about columnaris vaccination.

30. At this operation during 2009, were any fry vaccinated against columnaris?..... 1 Yes 3 No

Code
345

[IF NO, Skip to Item 37]

31. What percentage of fry were vaccinated for columnaris in 2009?.....

Percent
346
%

32. How many days after hatching were the fry usually vaccinated for columnaris?.....

Days
347

33. Which of the following best describes how many of the fry **intended for grow-out** on your own operation were routinely vaccinated against columnaris during 2009?

a. All fry intended for grow out on operation.	1
b. A portion of the fry.	2
c. None of the fry.	3
d. No fry were grown-out on this operation.	4

Code
1
2
3
4

(Enter Code)

348

34. How many of the fry **intended for sale** as fingerlings were vaccinated against columnaris during 2009?

a. All fry intended for sale.	1
b. A portion of the fry for sale based on customer request.	2
c. A portion of the fry for sale regardless of customer request.	3
d. None of the fry intended for sale.	4
e. No fry were for sale.	5

Code
1
2
3
4
5

(Enter Code)

349

35. During 2009, did you have any outbreaks of columnaris in ponds that had fingerlings that were vaccinated for columnaris?..... 1 Yes 3 No

Code
350

IF YES, was any medicated feed fed to these vaccinated fish?..... 1 Yes 3 No

Code
351

36. Would you say that the performance of fingerlings in the ponds with columnaris vaccinated fish, when compared to fingerlings in ponds without columnaris vaccinated fish, was better, the same, or worse for:

	Better	Same	Worse	Don't Know
a. SURVIVAL rates?.....	1 <input type="checkbox"/>	2 <input checked="" type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>
b. GROWTH rates?.....	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>

Code
352
353

37. During 2009, what percentage of stocked fry **survived** until harvested as fingerlings?.....

Percent
354
%

38. Of the fry stocked in 2009 that did not survive to harvest as fingerlings, what percentage was lost to:

- a. Enteric septicemia (ESC, hole-in-head disease)?.....
- b. Columnaris?.....
- c. Proliferative gill disease (PGD, hamburger gill disease)?.....
- d. Channel catfish virus?.....
- e. Trematodes?.....
- f. Gill parasites?.....
- g. Ich?.....
- h. Predation?.....
- i. Other known causes? (specify _____).....
- j. Unknown causes?.....

Percent
355
%
356
%
357
%
358
%
359
%
360
%
361
%
362
%
363
%
364
%
100%

TOTAL.....

39. During 2009, were any fingerlings sent to a diagnostic laboratory for any of the following reasons:

- a. Early problem detection? 1 Yes 3 No
- b. Confirming cause of disease? 1 Yes 3 No
- c. Identifying unknown disease? 1 Yes 3 No
- d. Other reasons? (specify: _____) 1 Yes 3 No

Code
365
366
367
368

40. Which of the following best describes your primary treatment for fry/fingerlings with ESC?

- a. Medicated feed.
- b. Regular feed or alternate days (reduce feed).
- c. Take off feed.
- d. Other (specify: _____)
- e. No ESC outbreaks.

Code
1
2
3
4
5

(Enter Code)

369

41. During 2009, did this operation feed any medicated feed to fry/fingerlings?

- 1 Yes 3 No

Code
370

IF YES, how many tons of the following medicated feed were fed to fry/fingerlings in 2009?

- a. Feed with Terramycin.
- b. Feed with Romet.
- c. Feed with Aquaflor.

Tons
371
372
373

42. During 2009, did you have a problem with snails in any of your fry/fingerling ponds?

- 1 Yes 3 No

Code
374

Did you use any of the following measures to control the snails in the fry/fingerling ponds?

- a. Lime. 1 Yes 3 No
- b. Copper. 1 Yes 3 No
- c. Weed control. 1 Yes 3 No
- d. Biological control. 1 Yes 3 No
- e. Other (specify: _____) 1 Yes 3 No

Code
375
376
377
378
379

PART II: FOODSIZE FISH PRODUCTION

NOTE: Part II refers to foodsize fish production. All references to ponds and fish relate to production of foodsize fish for harvest.

During 2009, did this operation grow any foodsize fish for harvest?..... 1 Yes 3 No

Code
401

[IF NO FOODSIZE FISH, Skip to Part III, page 28]

SECTION A STOCKING MANAGEMENT

1. On January 1, 2010, what was your inventory of:

<p>* a. Fingerlings? (2 – 60 lb/1000 fish).....</p>	+	Pounds 435	or	Number of Fingerlings 402	
<p>* b. Stockers? (over 60 lb – 750 lb/1000 fish).....</p>	+	Pounds 436	or	Number of Stocker 403	
<p>* c. Foodsize? (over 3/4 lb or more).....</p>	+	Pounds 437	or	Number of Foodsize 404	
<p>Then your total inventory of fingerling, stocker, and foodsize fish on January 1, 2010, was:</p>		=	Total Pounds 438	or	Total Fish 405

2. What percentage of the January 1 inventory (Item 1) was from the following lines:

		Percent
a. NWAC103?	409	%
b. Kansas?	410	%
c. Goldkist/Harvest Select?	411	%
d. Auburn?	412	%
e. Channel/blue hybrid catfish?	413	%
f. Other line (specify _____)	414	%
g. Unspecified channel catfish line	415	%
TOTAL	100%	

3. For this operation, what is the **most important reason** for selecting fingerlings or stockers?

	Code
a. Price.....	1
b. Growth characteristics.....	2
c. Disease resistance.....	3
d. Fish size.....	4
e. Distance from source (supplier).....	5
f. Producer's reputation.....	6
g. Other? (specify: _____).....	7

(Enter Code)

420

4. How many fish per acre are usually stocked in foodsize fish ponds?.....

Fish per acre
424

5. Do you ever stock any of the following species into ponds used for foodsize fish?

a. Threadfin shad.....	1 <input type="checkbox"/> Yes	3 <input type="checkbox"/> No
b. Gizzard shad.....	1 <input type="checkbox"/> Yes	3 <input type="checkbox"/> No
c. Redear sunfish (shellcrackers).....	1 <input type="checkbox"/> Yes	3 <input type="checkbox"/> No
d. Fathead minnows.....	1 <input type="checkbox"/> Yes	3 <input type="checkbox"/> No
e. Grass carp.....	1 <input type="checkbox"/> Yes	3 <input type="checkbox"/> No
f. Other species (specify: _____).....	1 <input type="checkbox"/> Yes	3 <input type="checkbox"/> No

Code
429
430
431
432
433
434

6. What percentage of the January 1 inventory (Item 1) was stocked in 2009?.....

Percent
416 %

[IF ITEM 6 is 0, skip to SECTION B]

7. What percentage of the fish stocked into foodsize fish ponds in 2009 was:

a. Purchased as fry from another operation?.....
b. Purchased as fingerlings from another operation?.....
c. Produced by this operation?.....
TOTAL

Percent
417 %
418 %
419 %
100%

8. What percentage of the fish stocked in foodsize fish ponds during 2009 were in the following size groups:

- a. 5 inches or less (less than 40 lb/1000 fish)?
 - b. 6 – 8 inches (40 – 70 lb/1000 fish)?
 - c. More than 8 inches (over 70 lb/1,000 fish)?
- TOTAL**

Percent	
421	%
422	%
423	%
100%	

9. During 2009, what percentage of the fingerlings were stocked directly into:

- a. Foodsize fish ponds that already contain fish (understocking)? [ask Item 10].
 - b. Foodsize fish ponds empty of fish?
 - c. Stocker ponds?
- TOTAL**

Percent	
425	%
426	%
427	%
100%	

[IF ITEM 9a IS 0, Skip to SECTION B]

10. What was the average number of fish per acre, including newly stocked fish and carry-over fish, in ponds that were understocked?

Fish per acre
428

SECTION B

POND CHARACTERISTICS

1. During 2009, how many foodsize fish ponds were used for production on this operation?

Ponds
501

*2. How many surface water acres were in those ponds?

Acres
502

Of those ponds (Item 2), how many surface water acres were used for:

- a. channel catfish?
 - b. channel/blue hybrid catfish?
- TOTAL** [should equal Item 2].

Acres
503
504
505

3. During 2009, how many or what percentage of this operation's foodsize fish ponds were in the following surface acre categories?

	Number of ponds	OR	Percent of ponds
a. Less than 5 acres.....	506		511 %
b. 5 – 9 acres.....	507		512 %
c. 10 – 15 acres.....	508		513 %
d. 16 – 19 acres.....	545		546 %
e. 20 or more acres.....	509		514 %
f. TOTAL [should equal Item 1 or 100%].....	510		100%

4. Of those foodsize fish ponds used in 2009, how many foodsize fish ponds have the following water sources?

	Ponds
a. Well (levee pond).....	515
b. Surface water (watershed pond, stream, spring).....	516
c. Other (specify: _____)	517
TOTAL [should equal Item 1]	518

5. Considering all of the foodsize fish ponds on your operation in 2009, what was the:

	Feet
a. Average pond depth?.....	519
b. Maximum pond depth?.....	520

6. Does this operation use the following measures for erosion control or improving vehicle access?

	Code
a. Vegetation on levee sides..... 1 <input type="checkbox"/> Yes 3 <input type="checkbox"/> No	521
b. Gravel on levee tops and/or sides..... 1 <input type="checkbox"/> Yes 3 <input type="checkbox"/> No	522

7. For the foodsize fish ponds, how many years do you usually wait between:

	Years
a. Draining your ponds?	523
b. Complete renovation?	524

8. Which of the following best describes how foodsize fish pond water levels are managed in the fall?

	Code	(Enter Code)
a. Release water to lower level.....	1	525
b. Allow level to drop without intervention.....	2	
c. Maintain water level (do not let water level drop)	3	

9. Which of the following was your primary method for regularly monitoring dissolved oxygen in foodsize fish ponds during 2009?

Code
1
2
3
4

- a. Automated sensors.....
- b. Hand monitor (oxygen meter).....
- c. Other (specify: _____).....
- d. Do not regularly monitor dissolved oxygen levels.....

(Enter Code)

526

10. How many horsepower of **fixed** aeration were used **per surface acre** of foodsize fish ponds?

Horsepower
527

Now I want to ask questions about water quality and treatment

11. What was the average chloride level, in parts per million, of the water in foodsize fish ponds on this operation during the summer?.....

PPM
528

12. Which of the following best describes the use of salt in foodsize fish ponds on this operation during 2009?

Code
1
2
3

- a. Routinely add salt to maintain a desired chloride level.....
- b. Add salt only in response to health problems.....
- c. Do not add salt to ponds.....

(Enter Code)

529

13. What is the alkalinity of the water, in parts per million, used in the foodsize fish ponds on this operation?.....

PPM
530

14. Which of the following best describes the use of calcium (ag lime, hydrated lime, or gypsum) in foodsize fish ponds on this operation?

Code
1
2
3

- a. Routinely add calcium to maintain a desired alkalinity and hardness.....
- b. Add calcium only in response to health problems.....
- c. Do not add calcium to foodsize fish ponds.....

(Enter Code)

531

15. Which of the following best describes the frequency of water quality testing in foodsize fish ponds on this operation in 2009?

Code
1
2
3
4

- a. At least once a month [ask Item 16].....
- b. Less than once a month.....
- c. In response to health problems only.....
- d. Not tested.....

(Enter Code)

532

[IF ITEM 15 DOES NOT EQUAL A, Skip to Item 17]

16. How many times per month were foodsize fish ponds tested for the following water quality characteristics?

- a. Ammonia.....
- b. Chloride.....
- c. Nitrite.....

Times per month
533
534
535

17. Which of the following best describes how this operation manages algae?

- a. Prevent algae overgrowth with a control program [ask Item 18].
- b. Control bloom only in response to problems such as off-flavor.
- c. No algae control treatments.

Code
1
2
3

(Enter Code)

536

[IF ITEM 17 DOES NOT EQUAL A, Skip to Section C]

18. During 2009, how many ponds were included in the algae control program?.....

Ponds
537

19. During 2009, did you use the following methods to control algae?

- a. Copper sulfate (CuSO₄) or other copper formulation. 1 Yes 3 No
- b. Diuron. 1 Yes 3 No
- c. Biological control (i.e., Threadfin or gizzard shad). 1 Yes 3 No
- d. Other (specify: _____) 1 Yes 3 No

Code
538
539
540
541

[IF ITEM 19 A OR B DOES NOT EQUAL YES, Skip to Section C]

20. During 2009, in which month did you start algae control?.....

Month
542
543

21. During 2009, in which month did you end algae control?.....

Weeks
544

22. During 2009, how many weeks did you wait between algae control treatments?.....

SECTION C

FEEDING and HARVESTING PRACTICES

[Questions refer to foodsize fish feeding only.]

1. During 2009, how many tons of feed were fed to foodsize fish on your operation?

Tons
601

(If unknown, how many tons were purchased or delivered to the operation in 2009?)

2. What percentage protein feed was primarily fed to your foodsize fish in 2009?

Code
1
2
3
4

a. 28 percent.

b. 32 percent.

c. 35 percent.

d. Other percent protein (specify: _____)

(Enter Code)

602

3. During 2009, how many pounds of feed were fed per pound of fish harvested (feed conversion ratio)?

Pounds
603
_ _ . _ _

4. During the following times of the year in 2009, what feeding method was most commonly used?

	Every day to satiation (all they can eat)	Every day but with a maximum feeding limit	Feed on alternate days to satiation	Feed on alternate days with a maximum feeding limit	Other	Code
a. March-April.....	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/> Specify _____	604
b. May-August.....	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/> Specify _____	605
c. September-October..	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/> Specify _____	606

5. When feeding at a fixed rate, what percentage of fish body weight do you use to calculate the amount to feed?

Percent body weight
607
%

6. During the winter (December through February), how many days per week do you feed your foodsize fish? [If no foodfish on hand in winter, enter 99].

Days per week
608

7. During 2009, what was the **average** pounds per acre, per day, fed during the month with the highest feed usage?.....

Pounds per acre
609

8. During 2009, what was the **highest** daily feeding rate, in pounds per acre, for any single foodsize fish pond on this operation?.....

Pounds per acre
610

9. For this operation, what is the **most important reason** for deciding which feed to buy?

Code
1
2
3
4
5

a. Price.....
 b. Quality such as premium, standard, economy.....
 c. Past performance of feed on your operation.....
 d. Reputation of the feed mill.....
 e. Other (specify: _____).....

(Enter Code)

611

The next 3 questions ask about channel and channel/blue hybrid catfish.

	Channel catfish	Channel/Blue Hybrid
10. During 2009, how many pounds of channel and channel/blue hybrid foodsize fish were harvested?..... Pounds	613	615
11. What was the number of foodsize fish harvested (if known)?..... Number	612	614

	Channel catfish	Channel/Blue Hybrid
12. During 2009, what percentage (by weight) of your channel and channel/blue hybrid foodsize fish harvest was from:		
a. Multibatch production (understocking, topping, or continuous harvesting)?.....	616 %	619 %
b. Single batch (clean harvesting)?.....	617 %	620 %
c. Other? (specify: _____).....	618 %	621 %
TOTAL	100%	100%

13. Which of the following best describes who primarily harvests foodsize fish on this operation?

Code
1
2
3
4
5

a. Employees of this operation.....
 b. Custom harvest crews.....
 c. Processing plant harvest crew.....
 d. Fee fishing (angling).....
 e. Other? (specify: _____).....

(Enter Code)

622

SECTION D

FOODSIZE FISH HEALTH AND PRODUCTION ISSUES

Now I'm going to ask questions about foodsize fish health issues.

1. During 2009, did this operation stock any fish vaccinated against enteric septicemia of catfish (ESC) into foodsize fish ponds? 1 Yes 3 No

Code
701

[IF NO, Skip to Item 5]

2. In 2009, what percentage of fish that were stocked into foodsize fish ponds were vaccinated for ESC?

Percent
702
%

3. During 2009, did you have any ESC outbreaks in foodsize fish ponds that contained ESC vaccinated fish? 1 Yes 3 No

Code
703

IF YES, was any medicated feed fed to these vaccinated fish? 1 Yes 3 No

Code
704

4. Would you say that the performance of fish in the ponds with ESC vaccinated fish, when compared to fish in ponds without ESC vaccinated fish, was better, the same, or worse for:

- | | | | | | |
|-------------------------|----------------------------|----------------------------|----------------------------|----------------------------|------|
| | Better | Same | Worse | Don't Know | Code |
| a. SURVIVAL rates?..... | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> | 3 <input type="checkbox"/> | 4 <input type="checkbox"/> | 705 |
| b. GROWTH rates?..... | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> | 3 <input type="checkbox"/> | 4 <input type="checkbox"/> | 706 |

Code
705
706

Next, I'll be asking similar questions, but now regarding columnaris vaccinations.

5. During 2009, did this operation stock any fish vaccinated against columnaris into foodsize fish ponds? 1 Yes 3 No

Code
707

[IF NO, Skip to Item 9]

6. In 2009, what percentage of fish that were stocked into foodsize fish ponds were vaccinated for columnaris.

Percent
708
%

7. During 2009, did you have any columnaris outbreaks in foodsize fish ponds that contained columnaris vaccinated fish? 1 Yes 3 No

Code
709

IF YES, was any medicated feed fed to these vaccinated fish? 1 Yes 3 No

Code
710

8. Would you say that the performance of fish in the ponds with columnaris vaccinated fish, when compared to fish without columnaris vaccinated fish, was better, the same, or worse for:

	Better	Same	Worse	Don't Know	
a. SURVIVAL rates?.....	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	711
b. GROWTH rates?.....	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	712

9. What percentage of the foodsize fish to be **stocked in 2010** will be vaccinated for:

	Percent	
a. ESC?.....		713 %
b. Columnaris?.....		714 %

I am now going to ask questions about losses due to disease, dissolved oxygen problems and predation on your operation in 2009.

10. For 2009, please estimate the number of ponds with major mortality losses of 5 % of inventory, over a brief period (1 to 2 weeks) as well as the number of acres represented by those ponds, and the pounds sold per acre in 2009. Exclude "normal" or "background" production losses.

Major losses > 5% inventory

a. Number of ponds with losses.....	715	ponds
b. Number of acres in the ponds with losses... ..	716	acres
c. Pounds sold per acre from the ponds with losses.....	717	lbs/acre

Pounds per acre
718

11. In ponds that did not have major losses in 2009, what was the average pounds sold per acre?.....

12. During 2009, how many of your foodsize fish ponds had any of the following diseases? Of those, rate the severity of the loss during 2009 as **light** with less than 200 pounds, **moderate** with 200 – 2,000 pounds, or **severe** at greater than 2,000 pounds of loss.

Cause of Loss	Number of Ponds	Average Loss per Outbreak Light = < 200 lbs Moderate = 200 – 2,000 lbs Severe = > 2,000 lbs	Code
a. Enteric septicemia (ESC, hole-in-head disease)	719	1 <input type="checkbox"/> Light 2 <input type="checkbox"/> Moderate 3 <input type="checkbox"/> Severe	720
b. Columnaris	721	1 <input type="checkbox"/> Light 2 <input type="checkbox"/> Moderate 3 <input type="checkbox"/> Severe	722
c. Ich	723	1 <input type="checkbox"/> Light 2 <input type="checkbox"/> Moderate 3 <input type="checkbox"/> Severe	724
d. Proliferative gill disease (PGD, hamburger gill disease)	725	1 <input type="checkbox"/> Light 2 <input type="checkbox"/> Moderate 3 <input type="checkbox"/> Severe	726
e. Anemia (white lip, no blood)	727	1 <input type="checkbox"/> Light 2 <input type="checkbox"/> Moderate 3 <input type="checkbox"/> Severe	728
f. Winter kill (fungus – Saprolegnia)	729	1 <input type="checkbox"/> Light 2 <input type="checkbox"/> Moderate 3 <input type="checkbox"/> Severe	730
g. VTC (twisted gut, visceral toxicosis, butulism)	731	1 <input type="checkbox"/> Light 2 <input type="checkbox"/> Moderate 3 <input type="checkbox"/> Severe	732
h. Trematodes	733	1 <input type="checkbox"/> Light 2 <input type="checkbox"/> Moderate 3 <input type="checkbox"/> Severe	734
i. Predation (birds or other animals)	735	1 <input type="checkbox"/> Light 2 <input type="checkbox"/> Moderate 3 <input type="checkbox"/> Severe	736
j. Low dissolved oxygen	737	1 <input type="checkbox"/> Light 2 <input type="checkbox"/> Moderate 3 <input type="checkbox"/> Severe	738
k. Other known causes? (specify _____)	739	1 <input type="checkbox"/> Light 2 <input type="checkbox"/> Moderate 3 <input type="checkbox"/> Severe	740

13. If your operation grows **both** channel catfish and channel/blue hybrids, how would you compare their resistance (ability to avoid disease) to the following diseases?

1 = Channels more resistant 2 = Hybrids more resistant 3 = No difference 4 = Don't know

- a. Enteric septicemia (ESC, hole-in-head disease).....
- b. Columnaris.....
- c. Proliferative gill disease (PGD, hamburger gill disease).....
- d. Edwardsiella tarda.....

Code
741
742
743
744

14. In 2009, did you have any dockage due to:

- a. red flesh in fish?..... 1 Yes 3 No
- b. yellow flesh in fish?..... 1 Yes 3 No

Code
745
746

15. In the past 3 years has this operation had fish health problems related to algal toxins?..... 1 Yes 3 No

Code
747

16. During 2009, did you have a problem with snails in any of your foodsize fish ponds?..... 1 Yes 3 No

Code
748

Did you use any of the following measures to control snails in foodsize fish ponds?

- a. Lime..... 1 Yes 3 No
- b. Copper..... 1 Yes 3 No
- c. Weed control..... 1 Yes 3 No
- d. Biological control..... 1 Yes 3 No
- e. Other (specify _____) 1 Yes 3 No

Code
749
750
751
752
753

17. During 2009, did this operation feed any medicated feed to foodsize fish?..... 1 Yes 3 No

Code
754

18. IF YES, how many tons of the following medicated feed were fed to fish in foodsize fish ponds during 2009?

- a. Feed with Terramycin.....
- b. Feed with Romet.....
- c. Feed with Aquaflor.....

Tons
755
756
757

19. During 2009, were any foodsize fish submitted to a diagnostic laboratory for the following reasons?

- a. Early problem detection..... 1 Yes 3 No
- b. Confirming cause of disease..... 1 Yes 3 No
- c. Identifying unknown disease..... 1 Yes 3 No
- d. Other reasons (specify: _____) 1 Yes 3 No

Code
758
759
760
761

20. During 2009, did you have any fish mortalities primarily due to Aeromonas that were diagnosed by a diagnostic laboratory?..... 1 Yes 3 No 5 No lab submissions

Code
762

[IF ANY RESPONSE IN ITEM 19 EQUALS YES, Skip to Item 22]

21. Which of the following was the primary reason that you did not submit any foodsize fish samples to a diagnostic laboratory during 2009?

- a. Inconvenient.....
- b. Information rarely of use (does not help control disease).....
- c. Already knew what the disease was.....
- d. No substantial disease problems.....
- e. Other (specify: _____)

Code
1
2
3
4
5

(Enter Code)

Now I'd like to ask questions about off-flavor.

22. During 2009, from how many ponds were any foodsize fish harvested?.....

Ponds
764

[IF NONE, Skip to Part III]

23. During 2009, how many ponds had off-flavor problems that delayed the planned harvest date?.....

Ponds
765

[IF NONE, Skip to Part III]

24. How many of the off-flavor harvest-delayed ponds were treated with the following?

- a. Diuron only.....
- b. Copper sulfate only.....
- c. Both Diuron and copper sulfate.....
- d. No treatment.....
- TOTAL** [should equal Item 23].....

Ponds
766
767
768
769
770

25. How many days was the planned harvest date delayed because of off-flavor:

- a. On the pond with the shortest delay?.....
- b. On the pond with the longest delay? [Enter 999 if ongoing].....
- c. What was the average delay during 2009 on this operation?.....

Days
771
772
773

PART III: GENERAL BACKGROUND

If neither fingerlings nor foodsize fish were raised on this operation during 2009, go to Part IV on the next page and code the operation as "No catfish" or "Out of Business".

1. Does this operation keep written or computerized records related to:

- a. Stocking?..... 1 YES 3 NO
- b. Harvesting?..... 1 YES 3 NO
- c. Disease?..... 1 YES 3 NO
- d. Feeding?..... 1 YES 3 NO
- e. Water quality?..... 1 YES 3 NO
- f. Breeding?..... 1 YES 3 NO
- g. Other (specify: _____) 1 YES 3 NO

Code
801
802
803
804
805
806
807

2. How many emergency aerators (power take-off or PTOs) are available for use on this operation?.....

Number
808

3. If you were to stock fingerlings vaccinated against ESC or columnaris, at least what percent of the vaccinated fish would you expect to be protected from the disease?.....

Percent
809

%

PART IV: CONCLUSION

ENTER INTERVIEW RESPONSE CODES

[1] No catfish on January 1, 2009, not eligible for this survey.

[2] Out of business.

[3] Refusal of General Catfish Management Report.

[Check reason under Enumerator Note below.]

[4] Complete.

[7] Out of scope for General Catfish Management Report.

[9] Inaccessible.

Code
9001

(ENUMERATOR NOTE; If Code 3, then select the code below that best fits)

[1] Does not want to commit time to the project.

[2] Does not want involvement with government program.

[3] Does not have necessary records available.

[4] Has participated in too many surveys.

[6] A bad time of year (planting, harvesting, second job, etc.).

[8] Believes that surveys and reports hurt the farmer more than help.

[10] No reason given, or other miscellaneous reasons.

Code
9002

Ending Time
9003

ENDING TIME [MILITARY].

For Office Use Only											
Response	9901	Respondent	9902	Mode	9903	R Unit	0921	Enum.	098	Eval.	100
1-Comp		1-Op/Mgr		1-Mail							
2-R		2-Sp		2-Tel							
3-Inac		3-Acct/Bkpr		3-Face-to-Face							
4-Office Hold		4-Partner		4-CATI							
5-R – Est		9-Oth		5-Web							
6-Inac – Est				6-e-mail							
7-Off Hold – Est				7-Fax							
8-Known Zero				8-CAPi							
				19-Other							

NOTES

