

DELTA CATFISH PRODUCTION
Assumptions for 250-, 750- and 1,500-acre farms
Using Multiple-Batch Stockings

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I. Primary Catfish Production Methods in Use in the MS Delta

- A. Single batch production system** - not done much and not used in these enterprise budgets.
- 12 batch production system - not all ready in fall, so partial harvest (Atop off@) a couple of times before following June harvest and before then restock with fingerlings
 - these methods may be practiced by 20-30% of delta catfish farmers
- B. Multiple-batch production system** - predominant production system in use and used here.
- stock 5" fingerlings every spring at the rate of 7-10,000/acre
 - cluster around 7,500 fingerlings per acre
 - fixed restocking date every spring
 - maybe practiced by 75-80% of all delta catfish farmers

II. Assumptions for multiple-batch production system

A. Pond construction costs are included.

B. No off-flavor or other delays in harvesting are included, this is done in sensitivity analyses.

C. Stocking Rates

These rates will not change by farm-scale size. Fingerlings are stocked at 7,500 per acre every March or sometime between February and June each year. Fish are fed once a day.

Delta fingerling producers will be able to easily obtain 5" fingerlings. In this analysis, 5" fingerlings (30 lb/1,000 fish) stocked in March every year (fish sizes range from 3" - 7"). In a typical delivery of 5" fingerlings the size distribution may be similar to 60% of the fingerlings being in the 4-6" range, 20% may be in the 3-4" range, and 20% may be in the 6-7" range, giving a median size of 5". For this analysis, a narrower fingerling size distribution of 100% of the fingerlings being in the 4-6" range.

Fingerlings stocked in March will be raised to an average 1.5 lbs (minimum 1.25 lb) over a two year period. 30% of the fish will be harvested in May-June of the following year, 30% will be harvested the following August, 20% will be harvested the following November, and 20% will be harvested in March two years after being stocked. A 1.5% per month mortality is applied to all fish.

Obtaining fingerlings will vary depending on farm size:

- On a 250-acre farm, the operation will buy fingerlings
- On a 750-acre farm, the operation will either buy fingerlings and/or operate a hatchery.

This size operation will typically buy fry and raise them to 5" fingerlings for stocking into grow-out ponds. Approximately 10% of total water acreage will be allocated for fry to 5" fingerling production.

- On a 1,500-acre farm, the operation will either buy fingerlings and/or operate a hatchery. At this size operation, a hatchery will be operated on-farm. Brood stock acreage will be approximately 60 acres, and acreage devoted to fry to 5" fingerling production will be 150 water acres or 10% of total water acreage.

D. Mortality

The loss rate is approximately 25% over the total production cycle. A 1.5% mortality per month or 18% per year loss rate is used. In these enterprise budgets, the feed conversion ratio is less efficient than for larger-sized farms.

E. Feed Conversion Ratios (FCR)

The FCR is the ratio of feed fed to pounds of fish grown and may range between 2.2 and 2.4. As farm size increases there are more inefficiencies in feeding fish, therefore for these enterprise budget calculations, the FCR for each farm size will be:

- 2.2 for 250-acre farms,
- 2.3 for 750-acre farms, and
- 2.4 for 1,500 acre farms.

F. Other production inputs

1. Hydrated lime - for eradication of Ram's Horn snail and breaking the pelican-snail-catfish biological life cycle of the trematode. The amount of lime applied per trematode application is based upon applying two treatments per year in locations where birds are a problem (near sloughs, etc.) and at least 1 time per year in other locations.

Trematode Treatment Methods:

a) Lime slurry: it costs approximately \$15/acre to treat with a lime slurry; however you must buy a truck load at a time, which is a 2,500 gallon minimum. One truckload costs \$2,500 and will treat approximately 160 acres.

b) Copper sulfate: it costs approximately \$9/acre to treat with copper sulfate and is the treatment used in this analysis. The advantage of using copper sulfate is that the farmer can make up a rig to apply the copper sulfate any time. Copper sulfate treatments for snails is applied at 10 pounds per 250 feet of levee. Treatments are applied in May when only 1 treatment is used. In areas frequently visited by white pelican, two treatments are used and are applied in April and July/August.

Other than for trematode treatment, no lime is required for Delta catfish culture as the alkalinity is sufficiently high naturally.

2. Salt - initially added to ponds at a rate of two tons per year and at the rate of one ton per year thereafter. This is done to maintain chloride levels at ___ which helps keep catfish healthy.

3. Water pumping - required to initially fill the pond. The average pond in the delta is now approximately 12 water surface acres having a 15-year life. The average pond depth is 3' in the shallow end and 5' in the deep end, averaging 4 feet. Thus, 48 acre-feet of water are required to initially fill the pond. Relatively shallow wells tap into the underlying aquifer to supply this water.

During summer, evaporation losses are high and the pond water level is maintained by pumping 34" of water to make up for evaporation losses. Well operation costs are based on the January 1996 MAFES Bulletin Number 1039, ARice Water Use and Costs@ that provide operating costs for acre-inch of well pumping for rice field irrigation. These costs should apply for aquaculture as well as the same well depths into the same aquifer is being used.

The well operation average variable cost per acre-inch of water is:

- \$1.54 per acre-inch using electricity powered well pumps. For example, 36 inches of pumped water multiplied by \$1.54 = \$55.44 per 3 acre-feet of pumped water multiplied by a 12-acre pond surface area = \$665.28 to replace evaporation losses for one 12-acre pond.

- \$1.81 per acre-inch using diesel powered well pumps and would cost \$782 per pond. For these enterprise budget estimations, electric water pumps are used. There is 1 well for every 6-7 ponds or 1 well for every 60-80 water acres, therefore for the 250-acre farm there are 4 wells.

4. Off-flavor prevention - either copper sulfate or diuron is used to control blue-green algae that can produce off-flavor in catfish. Off-flavor prevents fish from being harvested, which causes additional time and money to be spent raising the fish, so efforts to reduce off-flavor are tried.

a. One to two treatments per acre per year of copper sulfate is applied to obtain a 1.5 ppm dose. It is applied at a 4.2 lb/acre-foot of water multiplied by 4' average pond depth (= 16.8 lb/surface acre), multiplied by 1.5 treatments per acre per year to get a 25.2 lb/acre/year application amount.

b. Diuron usage calculations

$$\begin{aligned} & 0.5 \text{ ounce per acre - ft of water} \\ & \underline{\times 48.} \text{ acre-ft of water in 12-acre (avg 4' depth) pond} \\ & 24. \text{ ounces of diuron applied per pond, per treatment} \\ \\ & \times 5.83 \text{ diuron treatments per pond in the Mississippi Delta} \\ & \quad \text{(Hanson, MAFES Bulletin No. 1101, March 2001)} \\ = & 139.92 \text{ ounces applied per pond/year} \\ & \underline{\times 250} \text{ acres of water} \\ \\ = & 34,980 \text{ ounces applied} \\ & \underline{) 16} \text{ ounces in 1 lb} \\ \\ = & 2186.25 \text{ lbs of diuron used} \\ & \underline{) 4} \text{ lb bag of diuron} \\ \\ = & 547 \text{ bags} \\ & \underline{\times \$24} \text{ per 4 lb bag of diuron} \\ \\ = & \$ 13,118 \text{ cost of diuron to treat all ponds} \end{aligned}$$

which is \$52 per acre-foot of application. Applications in this analysis are made once in June, 4 times in July and once in August at weekly intervals.

5. Aeration - needed to manage water quality and specifically to maintain dissolved oxygen levels above 4 ppm. Aeration will differ by farm size. Most farms use fixed electrical 10-hp aerators with additional tractor powered PTO paddlewheels that are mobile and can be transported to any pond in critical need. Diesel generator usage occurs, but is more dependent on farm location than farm size, i.e., in areas where electricity continuity is in doubt. Electric aeration is used by approximately 90% of delta farmers, with diesel generated aeration electricity being used by the remaining 10% of the farmers (mainly by a small number of larger farm operations).

It is approximated that 60 - 70% of all delta catfish farmers use one 10-hp fixed aerator plus one tractor back-up paddlewheel aerator per 12-acre pond. Furthermore, it is approximated that 30 - 40% of delta catfish operations use two 10-hp aerators plus one tractor back-up paddlewheel aerator per pond.

A general rule-of-thumb is that a fixed 10-hp electric aerator will support 30,000 lb of catfish and a good tractor-driven sidewinder paddlewheel aerator will also support approximately 30,000 lb of fish. One study showed an average of 640 - 720 hours of aeration per pond per year was required to maintain proper dissolved oxygen levels (REFERENCE). An Arkansas Yield Verification study reported 117 hours/acre/year of electric aeration plus 13.5 hours per acre year of emergency tractor-driven aeration for an 11 acre pond stocked at 7,275 fish per acre.

In this analysis, aeration is being applied at the rate of 600 hours of fixed electrical aeration plus 300 hours of emergency tractor-driven aeration per pond. No aeration is applied during the months of January, February, March, and December. Electrical aeration is applied as follows: one week in April and November, two weeks in October, three weeks in May and September, and four weeks in June, July and August. Tractor-driven aeration is applied equally in July and August for four weeks.

6. Fuel and Lubricants - (gasoline, diesel, lubricants, electricity)

- Gasoline consumed by trucks is estimated based on mileage driven per year. The price of gasoline used in this analysis is \$0.85/gallon.

- It was estimated that 4,652 gallons of gasoline was used for feeding fish (x \$0.85/gallon = \$3,954).

- It was estimated that 7,500 gallons of gas is used annually in the 250-acre operation for transportation (x \$0.85/gallon = \$6,375).

- It was estimated that 240 gallons of gas is used for boating activities during fish harvesting (x \$0.85/gallon = \$204).

- Diesel consumption is at the rate of 3.4 gal/hr for 45-65 hp tractor (per hour of PTO-driver aerator usage). Diesel fuel cost \$1.05/gallon for this analysis.

- It was estimated that 5,528 gallons of diesel fuel was used for tractor-driven PTO aeration (x \$1.05 per gallon of diesel fuel = \$5,804).

- It was estimated that 651 gallons of diesel fuel was used for mowing grass on levees (x \$1.05 per gallon of diesel fuel = \$684).

- Oil/Grease used to maintain trucks, tractors, aerators, mowers, etc.

- Electricity is used for aeration and well pumping.

- a 10-hp electric aerator uses 8.47 kwh/hr of operation (Keenum & Waldrop, 1988, Appendix Table 16), for example, aeration electricity charges are calculated by multiplying 8.47

kwh/hr of 10-hp aerator operation times \$0.11 per kw/hr of electricity = \$0.72 per hour of electrical aerator operation,

- a 60-hp electric-powered well pump uses 50.85 kwh/hr of operation

Note: electrical utilities also have a per electrical meter charge as well as the cost of electricity.

For this analysis, there is one electrical meter for every four ponds, therefore for the@

- 250-acre farm having 21 ponds (20 12-acre plus one irregular pond of 10-acres) would have 5 electrical meters.

7. Labor requirements - number of employees vary by farm size.

Diversification of farm operations is the goal of delta catfish farms in the 100 - 120 acre size range and requires 1 manager plus 1 worker. Probably 10-15% of all delta catfish farms are less than 250 acres - this size operation would use custom harvesting. Most delta catfish farms are greater than 250 water acres.

a) For a 250-acre farm, labor would be arranged as follows:

- 1 manager that does the catfish feeding,
- 2 night men, who alternate monitoring dissolved oxygen levels,
- 5 people for levee grass mowing and seine harvesting of fish (no custom harvest at this size farm and thus only a \$0.015 per pound transport expense is charged by the processing company). Alternating d.o. monitoring implies the two men are needed to cover 7 days and all hours or 40 hours per person during summer hours, i.e., 10 hrs/night x 7 days = 70 hours. These workers hours are less during the winter when aeration is not a problem and they would help with seining or chasing birds.

b) For a 750-acre farm, that is contiguous, labor would be arranged as follows:

- 1 manager,
- 1 assistant manager who will do fish feeding,
- 4 night men to monitor dissolved oxygen levels,
- 7 people for levee grass mowing and seine harvesting of fish, and
- 1 bookkeeper.

c) For a 1,500-acre farm, that is not contiguous, labor would be arranged as follows:

- 1 manager,
- 1 assistant manager who will do fish feeding,
- 2 full-time harvest seine crews (5 people per crew) with 1 of the 10 being an assistant manager,
- 2-3 feeders (1 will be manager and 1 will be an assistant manager),
- 1 shop foreman who will have 1 helper,
- 4 night men to monitor dissolved oxygen levels, and
- 1 bookkeeper/secretary position.

Labor compensation rates used in developing the 250-acre Mississippi Delta catfish farm are:

- \$35,000 per year for a manager feeding and running the d.o. crew,
- \$25,000 per year for a foreman who is in charge of fish harvesting, other seining, mowing and levee grading,
- \$15,000 - 18,000 for seining and mowing personnel, and
- \$18,000 for each person in the d.o. monitoring crew.

8. Bird predation - from mid November to Mid-March double crested cormorants, white pelicans, and other birds migrate into the Mississippi delta region of aquaculture production and consume a tremendous amount of fish. Additional labor activities during these months include bird chasing, placing pyrotechnics, and shooting of birds (with proper permits).

G. Equipment (see table of pond construction, equipment and machinery costs).

H. Pond configurations - ponds that have been built in the last 5 - 10 years are generally smaller than in the 1970's and 1980's. The average size pond now is approximately 12 water surface acres.

- A 250-water acre pond will have: 20 12-acre ponds plus 1 10-acre pond. A 12-acre pond will be approximately 518 ft width x 1,045 ft length (3,126 feet circumference (outside dimension)). The main levee will have a 25' wide crown, and 18' will be graveled. The cross levees will have 18' crowns.

Only 18' of the main levee width will be covered with gravel. (Gravel computation: 518' x 10 ponds = 5,180' + 200' for ramps = 5,380' of levee needing gravel. A 6" gravel depth is used. Running gravel levee 18' of gravel on 25' levee = 48,420 cubic feet divided by 27 cubic feet per cubic yard = 1,793 cubic yards divided by 22 cubic yards = 81.5 truckloads of gravel needed multiplied by \$130 per truckload = \$10,597 for graveling the main levee.

Calculations for main levee gravel cost:

5,380 ft 18' wide and 6" deep =	48,420 ft ³
cost \$13,000) <u>27</u> ft ³
	1,793 yd ³
22 cu yd/truck load) <u>22</u> yd ³
\$130 per load	81.5
	<u>x 130</u>
	\$10,597

Assumptions for Delta MS production of channel catfish, 2001.

Farm Size

750 acre of water surface area for grow-out

Feed Price

\$ 280 per ton for feed in a grow-out phase

15 - 25 months to grow 5" fingerlings (ranging in size from 4" - 6") to 1.5 lb harvest-sized fish
Approximately 30% of the fish will be harvested in May-June (Year 2) in the year after stocking
another 30% will be harvested the following August of Year 2, another 20% in November Year 2
and the remaining 20% will be harvested in March (Year 3) two years after initial stocking.

Harvest-Fish Info

0.7 \$/lb food fish; FARMER NETS \$ 0.685 AFTER FISH TRANSPORTATION COSTS
1.5 lb fish final weight NO CHARGE FOR HARVESTING AS IT IS DONE ON-FARM
2.40 feed conversion rate (lbs feed fed to lbs of fish harvested)
1.5% monthly mortality rate = 18% per year

Fingerling Info

Fingerlings are stocked every March over the entire farm water acreage
0.05 price for 5" fingerling (4" to 6" range)
30 lb/1,000 5" fingerlings
7500 fingerlings per acre stocking rate

Harvest Info

0.000 Seine & harvest of food fish, \$/lb harvested
Above a 250-acre farm size custom harvesting is not used as hired labor will do harvesting
0.015 \$/pound of fish transported

Interest Rates

Long-term 10% per year
Medium-term 10% per year
Short-term 10% per year

Operating expense constants

REPAIRS & MAINTENANCE
31,702 - per year
2,642 - per month
LABOR
55,000 Manager salary, \$/year **see the labor spreadsheet for more details**
40,000 Assistant manager, \$/year
40,000 Shop foreman, \$/year
15,000 Shop helper, \$/year
15,000 Feeder, \$/year
20,000 Bookkeeper/secretary, \$/year
Hired labor, \$/year
25,000 Foreman
16,500 Labor for seining, mowing, grading and facilities maintenance
18,000 Night time labor for d.o. monitoring person, \$/year
53 Salt, \$/ton
15 Lime, \$/ton
32 Copper sulfate, \$/50 lb bag
9 \$ per copper sulfate treatment for TREMATODE CONTROL, one treatment per year
24 Diuron, \$/4 lb bag
9 \$ per diuron treatment for OFF-FLAVOR CONTROL, average of 5.83 treatments per pond
600 Supplies & admin., \$50/month
0.11 Electricity, per KWhr at off-peak rate
92 Fuel & lubricants, \$/acre
6.25 Insurance, \$/acre
2,500 Telephone, \$/year
2,400 Accounting/legal, \$/year
2,000 Bird chasing and ammunition, \$/year
1.25 gasoline price for agriculture, \$/gallon
1.05 diesel price, \$/gallon

Catfish budget for a 1,500-acre Mississippi Delta farm, 2001.

Acres	750
Final weight, lb	1.5
Stocking rate, fingerlings/acre	7500
Feed fed per pound of fish gain	2.40
Price per lb of fish	0.7
Price to seine harvest-sized fish,\$/lb	0.00 at this size operation on-farm labor does seining
Price to transport harvested fish,\$/lb	0.015
Begin weight, lb/1,000	30
Price of feed, \$/ton	\$ 280
Electricity cost, \$/kw-hr	\$0.110
Interest rates:	Short-term 10% Intermediate: 10% Long-term: 10%
Hired labor rate, \$/week	\$0
Fingerling price, \$/each	0.05

	Weight Each	Unit	Quantity	Price or Cost / unit	Value or Cost	Per Acre Value
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1. Gross Receipts						
Catfish sales	1.5 lb		4,464,855	0.70	3,125,399	4,167

53% survival or 47% mortality
5,953
3,189,750 lbs produced using calculated MS state average with NASS figures

2. Variable Costs						
Feed, food fish	ton		5,696	280	1,594,824	2,126
Labor						
Management	year		2	95,000	95,000	127
Hired labor, at various wages	year		7	299,500	299,500	399
Fingerlings	each		5,625,000	0.050	281,250	375
Transport of harvested fish /1	lb		4,464,855	0.015	66,973	89
Fuel & lubricants						
Diesel	gal		22,332	1.05	23,449	31
Gasoline	gal		12,392	1.25	15,490	21
Electricity						
Aeration	10-hp hr		12,596	0.932	11,736	16
Meter charges	meter-month		60	35	2,100	3
Water pumping	acre		750	55.44	41,580	55
Repairs and Maintenance	month		12	2,642	31,702	42
Bird chasing	year		1	2,000	2,000	3
Chemicals						
Salt	ton		750	53	39,750	53
Diuron, off-flavor control	trt/acre		4,500	9	40,500	54
Copper sulfate, trematode treat.	trt/acre		750	9	6,750	9
Miscellaneous expenses	per acre		750	25	18,750	25
Interest on Operating Capital	dol		2,571,353	0.10	192,851	257
TOTAL VARIABLE COSTS					2,764,204	3,686

3. Income Above Variable Cost					361,194	482
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4. Fixed Cost						
Land charge (not included)	dol		720,000	0.10	0	0
Machinery depreciation	dol				41,650	56
Pond depreciation	dol				71,090	95
Taxes (land)	acre		30	750	22,767	30
Interest on Pond Construction Costs	dol.&%		562,650	0.10	56,265	75
Interest on Equipment/Mach. Purchases	dol &%		218,320	0.10	21,832	29
TOTAL FIXED COSTS					213,603	285

5. Overhead /2						
Telephone	month		12	208	2,500	3
Accounting/legal	year		1	2,400	2,400	3
Supplies and Administrative	year		1	600	600	1
Office supplies	year		1	600	600	1
Insurance, general liability	acre		750	6.25	4,688	6
Insurance on equipment, machinery	dol/\$		436,640	0.004	1,747	2
TOTAL OVERHEAD COSTS					12,534	17

6. Total of All Specified Expenses					2,990,342	3,987
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7. Net Returns Above All Specified Expenses /3					135,057	180
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Net Returns Per Acre:	Above Specified Variable Costs	482	482
	Above Specified Total Costs	180	180
Breakeven Price:	To Cover Specified Variable Expenses	0.62	0.62
	To Cover Specified Total Expenses	0.67	0.67

/1 At this size operation on-farm labor will do the harvesting and only transportation costs apply.
/2 Overhead expenses include telephone, accounting, legal, supplies, administration, and insurance (general liability and equipment).
/3 Labor and Management expenses have been included, but no expense has been included for land, therefore Net Returns to Land is represented by this budget.

Sensitivity Analysis - Estimated Net Returns Per Acre Above ALL Expenses At Varied Selling Price and Feed Price /1

Feed Price, \$/ton	Price Received for Catfish, \$/lb						
	0.55	0.60	0.65	0.70	0.75	0.80	0.85
190	22	320	617	915	1,212	1,510	1,808
200	-60	238	536	833	1,131	1,504	1,726
210	-141	156	454	752	1,049	1,499	1,645
220	-223	75	372	670	968	1,493	1,563
230	-305	-7	291	588	886	1,487	1,481
240	-386	-89	209	507	804	1,482	1,400
250	-468	-170	127	425	723	1,476	1,318
260	-550	-252	46	343	641	1,470	1,236
270	-631	-334	-36	262	559	1,465	1,155
280	-713	-415	-118	180	478	1,459	1,073
290	-795	-497	-199	98	396	1,453	991
300	-876	-579	-281	17	314	1,447	910
310	-958	-660	-363	-65	233	1,442	828

Sensitivity Analysis - Estimated Net Returns Per Acre Above Variable Expenses At Varied Selling Price and Feed Price /1

Feed Price, \$/ton	Price Received for Catfish, \$/lb						
	0.55	0.60	0.65	0.70	0.75	0.80	0.85
190	323	621	919	1,216	1,514	1,812	2,109
200	242	539	837	1,135	1,432	1,806	2,028
210	160	458	755	1,053	1,351	1,800	1,946
220	78	376	674	971	1,269	1,795	1,864
230	-3	294	592	890	1,187	1,789	1,783
240	-85	213	510	808	1,106	1,783	1,701
250	-166	131	429	727	1,024	1,777	1,619
260	-248	50	347	645	943	1,772	1,538
270	-330	-32	266	563	861	1,766	1,456
280	-411	-114	184	482	779	1,760	1,375
290	-493	-195	102	400	698	1,755	1,293
300	-575	-277	21	318	616	1,749	1,211
310	-656	-359	-61	237	534	1,743	1,130

**Sensitivity Analysis - Estimated Net Returns Per Acre Above ALL Expenses
At Varied Selling Price and Feed Price /1**

Feed Price, \$/ton	Price Received for Catfish, \$/lb						
	0.55	0.6	0.65	0.7	0.75	0.8	0.85
190	22	320	617	915	1,212	1,510	1,808
200	-60	238	536	833	1,131	1,504	1,726
210	-141	156	454	752	1,049	1,499	1,645
220	-223	75	372	670	968	1,493	1,563
230	-305	-7	291	588	886	1,487	1,481
240	-386	-89	209	507	804	1,482	1,400
250	-468	-170	127	425	723	1,476	1,318
260	-550	-252	46	343	641	1,470	1,236
270	-631	-334	-36	262	559	1,465	1,155
280	-713	-415	-118	180	478	1,459	1,073
290	-795	-497	-199	98	396	1,453	991
300	-876	-579	-281	17	314	1,447	910
310	-958	-660	-363	-65	233	1,442	828

Pond construction and equipment cost for a 250 acre catfish farm in the Mississippi Delta. /1

Item	Unit	Cost/unit	Number	Cost	Useful Life	Average Investment	Annual Avg. Depreciation /2	Interest on Investment /3	Repairs as a Percent of New Cost	Annual Repairs and Maintenance	
A. Capital cost											
Land purchase (not included)	acre	\$ 800	900	\$ 720,000			-	\$ 72,000			
Pond construction	acre	\$ 1,315	750	\$ 986,250	15	493,125	\$ 65,750	\$ 49,313	10%	\$ 6,575	
Gravel	cu. yd.	\$ 43	750	\$ 32,250		16,125	\$ -	\$ 1,613			
Well, 3,000 gpm, 60-hp electric motor	each	\$ 15,360	5	\$ 76,800	20	38,400	\$ 3,840	\$ 3,840	75%	\$ 2,880	
Shop, 30' x 50'	ea	\$ 30,000	1	\$ 30,000	20	15,000	\$ 1,500	\$ 1,500	10%	\$ 150	
Subtotal (excluding land cost)				\$ 1,125,300		\$ 562,650	\$ 71,090	\$ 56,265		\$ 9,605	
B. Equipment											
Shop tools and equipment	ea	\$ 10,000	1	\$ 10,000	10	5,000	\$ 1,000	\$ 500	10%	\$ 100	
Trucks, 3/4 ton, 4WD	ea	\$ 20,000	2	\$ 40,000	5	20,000	\$ 8,000	\$ 2,000	45%	\$ 3,600	
Feed bin, 10 ton capacity	ea	\$ 7,000	2	\$ 14,000	20	7,000	\$ 700	\$ 700	10%	\$ 70	
Tractors, 45-65 hp	ea	\$ 20,000	10	\$ 200,000	14	100,000	\$ 14,286	\$ 10,000	75%	\$ 10,714	
Aerators, electric 10-hp /4	ea	\$ 4,000	21	\$ 84,000	10	42,000	\$ 8,400	\$ 4,200	50%	\$ 4,200	
PTO water pump, used	ea	\$ 1,500	1	\$ 1,500	10	750	\$ 150	\$ 75	45%	\$ 68	
PTO aerators	ea	\$ 3,400	10	\$ 34,000	10	17,000	\$ 3,400	\$ 1,700	25%	\$ 850	
Bush hog/mower, 6' side mount	ea	\$ 6,940	1	\$ 6,940	10	3,470	\$ 694	\$ 347	20%	\$ 139	
Pull-behind mower, 6' width	ea	\$ 5,000	1	\$ 5,000	10	2,500	\$ 500	\$ 250	20%	\$ 100	
Truck Mounted Feeder, 2-4 ton with electronic feeder scale, used	ea	\$ 7,500	1	\$ 7,500	10	3,750	\$ 750	\$ 375	25%	\$ 188	
DO meter and accessories	ea	\$ 1,500	2	\$ 3,000	10	1,500	\$ 300	\$ 150	202%	\$ 606	
Computer	ea	\$ 1,500	1	\$ 1,500	10	750	\$ 150	\$ 75	10%	\$ 15	
Boat, motor and trailer	ea	\$ 4,200	1	\$ 4,200	10	2,100	\$ 420	\$ 210	65%	\$ 273	
Mobile 2-way radio & base unit	ea	\$ 2,000	1	\$ 2,000	10	1,000	\$ 200	\$ 100	25%	\$ 50	
Seine net, 10 ft deep, 1/2" mesh	ea	\$ 4,000	1	\$ 4,000	5	2,000	\$ 800	\$ 200	50%	\$ 400	
Hydraulic takeup reel with trailer	ea	\$ 4,000	1	\$ 4,000	10	2,000	\$ 400	\$ 200	50%	\$ 200	
2-1/1 ton used boom truck	ea	\$ 15,000	1	\$ 15,000	10	7,500	\$ 1,500	\$ 750	35%	\$ 525	
Subtotal				\$ 436,640		\$ 218,320	\$ 41,650	\$ 21,832		\$ 22,097	
TOTAL				\$ 1,561,940		\$ 780,970	\$ 112,740	\$ 78,097		\$ 31,702	

/1 For this size operation, 250 acres, an office building is not required, as most paperwork and administration would be conducted out of the home.

/2 Computed by the straight line method with zero salvage value for depreciable items.

/3 Land and pond construction is charged at a long-term interest rate and equipment items are charged at an intermediate-term interest rate.

Charged at 10% on the total value of land with all other depreciable items charged at 10% on one-half of the investment.

/4 One fixed 10-hp aerator per pond is used.

Feeder truck - used 1-ton truck with dual wheel rear end with heavy duty axle.

Electricity and Fuel

A. Well pumping to replace 36 acre-inches of water per year. From Jan. 1996 MAFES Bulletin # 1039, "Rice Water Use and Costs":
 Average variable cost per acre-inch of water is: For electric pumps, \$1.54/acre-inch, (\$1.81/acre-inch with a diesel pump - not used here) therefore:

	36 acre-inches of water pumped annually	
\$	1.54 cost to pump per acre-inch	
\$	55.44 per required acre-inches of water annually	
	750 acres of water	
\$	41,580 annually to flush ponds and replace evaporation or.....	55.44 \$/acre-inch pumped

B. Aeration electricity requirements for one 10-hp aerator per pond. /1

	# of days run	hours per day	# of ponds	Aeration Hours	No. of Kwh per hour of 10-hp aerator operation	Aeration Cost, \$/kwh	Monthly Cost of Aeration
January	0	0	0	-	8.47	0.11	-
February	0	0	0	-	8.47	0.11	-
March	0	0	0	-	8.47	0.11	-
April	7	3	8	168	8.47	0.11	157
May	18	6	13	1,404	8.47	0.11	1,308
June	26	7	16	2,912	8.47	0.11	2,713
July	27	8	16	3,456	8.47	0.11	3,220
August	26	8	16	3,328	8.47	0.11	3,101
September	20	6	10	1,200	8.47	0.11	1,118
October	6	3	7	126	8.47	0.11	117
November	1	2	1	2	8.47	0.11	2
December	0	0	0	-	8.47	0.11	-
TOTAL AERATION HOURS				12,596			11,736

/1 The cost per hour of 10-hp aerator operation is 8.47kwh /hour of operation x electricity cost, or \$ 0.932 per hour of 10-hp aerator operation

There is an additional charge of \$35 per electrical meter. There is usually one electrical meter per every 4 ponds.
 Thus, 21 ponds / 4 ponds/meter = 5 electrical meters on this farm.

C. Fuel

DIESEL

1. PTO-driven aerator - Diesel

45-65 hp tractor used for PTO-driven aerator	
3.4 gallons of diesel used per hour of PTO operation	
300 hours of PTO-driven aeration per pond	
1,020 gallons of diesel for PTO emergency aeration	
21 ponds on 250-acre farm	
21,420 gallons of diesel fuel used for PTO aeration	
1.05 \$/gallon of diesel	
\$ 22,491 \$ for diesel use on 250-acre catfish farm	

2. Mowing - Diesel

from Keenum and Waldrop:	\$ 684 divided by	\$ 0.75 price of diesel	912 gallons used
912 gallons used x	1.05 2001 diesel price =	\$ 958	

TOTAL DIESEL 22,332 GALLONS

GASOLINE

1. Feeding - Gasoline

Truck Mounted Feeder, 2-4 ton used

from Keenum and Waldrop:	\$ 3,954 divided by	\$ 0.85 price of gas =	4,652 gallons used
4,652 gallons used x	1.25 2001 gas price =	\$ 5,815	

2. Boat and harvesting - Gasoline

from Keenum and Waldrop:	\$ 204 divided by	\$ 0.85 price of gas =	240 gallons used
240 gallons used x	1.25 2001 diesel price =	\$ 300	

3. Transportation around the farm, to processor, to chase birds, check d.o., etc. - Gasoline

from Keenum and Waldrop:	\$ 6,375 divided by	\$ 0.85 price of gas =	7500 gallons used
7500 gallons used x	1.25 2001 diesel price =	\$ 9,375	

TOTAL GAS 12,392 GALLONS

Chemical needs for a 250-acre MS Delta catfish farm.

Chemicals

Salt to bring chlorides up to 100 ppm to prevent brown blood disease
check chlorides after pond has been filled and add 2 tons of salt per acre
After year 1 all ponds are treated in the spring at 1 ton acre

Lime Do not need to add lime to delta waters as their alkalinity level is fine
However, lime is used as a trematode treatment; costs about \$15/acre
In this scenario, we have chosen to use copper sulfate for trematode treatment.

Copper sulfate For off-flavor: treat at 5 lb/acre/application when water is above 70F which is about
20 applications per year

5 lb/acre treatment rate
20 applications per year

For trematode treatment: apply at
Cost is approximately \$9/acre

Diuron For off flavor treatment
0.5 ounces per acre-foot of water applied weekly for up to 9 treatments per pond
- In the delta 5.83 applications of diuron were used per pond (Hanson, 2001)

Labor Requirements for a:
 750 water acre Delta MS catfish farm

Pay Amount	Number	Total Annual Cost, \$	Position and responsibility
Operations Management			
55,000 \$/year	1	\$ 55,000	Manager - overall manager and does feeding
40,000 \$/year	1	\$ 40,000	Assistant manager
Subtotal	2	\$ 95,000	
20,000 \$/year	1	\$ 20,000	Bookkeeper/secretary
25,000 \$/year	1	\$ 25,000	Foreman - oversees hired laborers
40,000 \$/year	1	\$ 40,000	Shop foreman
15,000 \$/year	1	\$ 15,000	Shop helper
15,000 \$/year	1	\$ 15,000	Feeder
18,000 \$/year /1	4	\$ 36,000	Night dissolved oxygen monitoring workers
16,500 \$/year	9	\$ 148,500	People doing mowing and seining (no custom harvesting)
Subtotal	17	\$ 299,500	
TOTAL		\$ 394,500	

Taxes on Delta Catfish Acreage

1 Water and Levee acres

1,315 x construction cost

1315 pond construction value

750 + land use value per acre in the delta of MS

2065 sum of construction value and land use value

309.75 x 15% assessment rate

0.098 x milleage rate

30.3555 TAX

22,767 TOTAL TAX FOR THIS SIZE FARM

750 WATER ACRES

Cash flow, Year 1, for a 250-acre catfish farm in the Delta, Mississippi, 2001.

Month		Jan-01	Feb-01	Mar-01	Apr-01	May-01	Jun-01	Jul-01	Aug-01	Sep-01	Oct-01	Nov-01	Dec-01	Total
Food fish sales (lb)		0	0	0	0	0	0	0	0	0	-	-	-	-
BEGINNING CASH BALANCE		1,000	500	500	500	500	500	500	500	500	500	-1,073,873	500	
Cash Inflows														
Catfish sales	\$ 0.70 lb	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL CASH INFLOW		1,000	500	500	500	500	500	500	500	500	500	(1,073,873)	500	
Operating Expenses														
Feed, food fish	\$ 280 ton	0	0	5,460	15,750	36,960	73,500	120,960	220,290	194,040	148,890	5,040	5,040	825,930
Labor														
Farm manager	\$ 95,000 year	7,917	7,917	7,917	7,917	7,917	7,917	7,917	7,917	7,917	7,917	7,917	7,917	95,000
Hired labor	\$ 299,500 year	24,958	24,958	24,958	24,958	24,958	24,958	24,958	24,958	24,958	24,958	24,958	24,958	299,500
Fingerlings, 5" (4"-6" range)	\$ 0.05 each			281,250										281,250
Harvest /1														
Seining	\$ - lb.	-	-	-	-	-	-	-	-	-	-	-	-	-
Transport	\$ 0.015 per lb	-	-	-	-	-	-	-	-	-	-	-	-	-
Fuel & lubricants														
Diesel														
- PTO-driven aeration	\$ 1.05 gallon						11,246	11,246						22,491
- Mowing	\$ 1.05 gallon			120	120	120	120	120	120	120	120			958
Gasoline														
- Transportation	\$ 1.25 gallon	781	781	781	781	781	781	781	781	781	781	781	781	9,375
- Boat and harvesting	\$ 1.25 gallon													
Utilities														
Aeration + Meter charge	\$ 0.93 kw-hr	175	175	175	332	1,483	2,888	3,395	3,276	1,293	292	177	175	13,836
Water pumping to flush ponds	\$ 55.44 /3ac-ft/yr					4,158	8,316	12,474	12,474	4,158				41,580
Repairs and Maintenance	\$ 31,702 year	2,642	2,642	2,642	2,642	2,642	2,642	2,642	2,642	2,642	2,642	2,642	2,642	31,702
Telephone	\$ 2,500 year	208	208	208	208	208	208	208	208	208	208	208	208	2,500
Accounting/legal	\$ 2,400 year	200	200	200	200	200	200	200	200	200	200	200	200	2,400
Bird chasing	\$ 2,000 year	500	500	250								250	500	2,000
Chemicals														
Salt	\$ 53 ton			39,750										39,750
Diuron, off-flavor control	\$ 9 trt/acre						2,250	9,000	2,250					13,500
Copper sulfate, trematode treat.	\$ 9 acre					6,750								6,750
Supplies & admin.	\$ 600 year	50	50	50	50	50	50	50	50	50	50	50	50	600
Taxes (land)	\$ 30.36 acre	-	-	-	22,767	-	-	-	-	-	-	-	-	22,767
Insurance	\$ 6.25 acre	4,688												4,688
Total Cash Operating Expenses		42,119	37,431	358,301	59,974	49,267	61,576	72,991	54,876	42,327	37,169	37,183	37,431	890,646
Scheduled debt payments														
Intermediate - principal interest		47,459	-	-	-	-	-	-	-	-	-	-	-	47,459
Long-term - principal interest		39,298						24,453	101,277					
TOTAL CASH OUTFLOW		128,875	37,431	358,301	59,974	49,267	61,576	198,721	54,876	42,327	37,169	37,183	37,431	938,104
CASH AVAILABLE		(127,875)	(36,931)	(357,801)	(59,474)	(48,767)	(61,076)	(198,221)	(54,376)	(41,827)	(36,669)	(1,111,057)	(36,931)	
New Borrowing		128,375	37,431	358,301	59,974	49,267	61,576	198,721	54,876	42,327	37,169	1,111,557	37,431	
Payment on														
Principal		-									1,028,017			
Interest		-									46,356			
ENDING CASH BALANCE		500	500	500	500	500	500	500	500	500	(1,073,873)	500	500	500
Summary of Debt Outstanding:														
Short-term		128,375	165,807	524,108	584,082	633,349	694,925	893,646	948,522	990,849	-	1,111,557	1,148,988	
Intermediate-term		389,181	389,181	389,181	389,181	389,181	389,181	389,181	389,181	389,181	389,181	389,181	389,181	
Long-term		1,125,300	1,125,300	1,125,300	1,125,300	1,125,300	1,125,300	1,100,847	1,100,847	1,100,847	1,100,847	1,100,847	1,100,847	
TOTAL DEBT OUTSTANDING		1,642,857	1,680,288	2,038,589	2,098,563	2,147,831	2,209,406	2,383,674	2,438,550	2,480,877	1,490,028	2,601,585	2,639,016	

/1 At this size operation on-farm labor will do the harvesting and only transportation costs apply.

Cash flow, Year 2, for a 250-acre catfish farm in the Delta, Mississippi, 2001.

Month	Jan-02	Feb-02	Mar-02	Apr-02	May-02	Jun-02	Jul-02	Aug-02	Sep-02	Oct-02	Nov-02	Dec-02	Total
Fish sales (lb)	0	0	0	0	2,079,750	0	0	1,980,000	0	0	1,255,500	0	5,315,250
BEGINNING CASH BALANCE	500	500	500	500	500	-426,649	500	500	1,301,824	1,259,497	384,750	1,207,485	
Cash Inflows													
Catfish sales	\$ 0.70 lb	0	0	0	1,455,825	0		1,386,000	0	0	878,850		\$ 3,720,675
TOTAL CASH INFLOW		500	500	500	1,456,325	(426,649)	500	1,386,500	1,301,824	1,259,497	1,263,600	1,207,485	
Operating Expenses													
Feed, food fish	\$ 280 ton	6,720	6,720	58,380	171,150	228,060	203,490	309,960	297,360	269,430	218,190	5,880	5,880 \$ 1,781,220
Labor													
Farm manager	\$ 95,000 year	7,917	7,917	7,917	7,917	7,917	7,917	7,917	7,917	7,917	7,917	7,917	\$ 95,000
Hired laborer	\$ 299,500 week	24,958	24,958	24,958	24,958	24,958	24,958	24,958	24,958	24,958	24,958	24,958	\$ 299,500
Fingerlings, 5" (4"-6" range)	\$ 0.05 each	-	-	281,250	-	-	-	-	-	-	-	-	\$ 281,250
Harvest /1													
Seining	\$ - lb.	-	-	-	-	-	-	-	-	-	-	-	\$ -
Transport	\$ 0.015 per lb	-	-	-	-	31,196	-	-	-	-	-	18,833	\$ 79,729
Fuel & lubricants													
Diesel													
- PTO-driven aeration	\$ 1.05 gallon					11,246	11,246						\$ 22,491
- Mowing	\$ 1.05 gallon			120	120	120	120	120	120	120			\$ 958
Gasoline													
- Transportation	\$ 1.25 gallon	781	781	781	781	781	781	781	781	781	781	781	\$ 9,375
- Boat and harvesting	\$ 1.25 gallon					100		100			100		
Utilities													
Aeration + Meter charge	\$ 0.93 kw-hr	175	175	175	332	1,483	2,888	3,395	3,276	1,293	292	177	\$ 13,836
Water pumping to flush ponds	\$ 55.44 /3ac-ft/yr					4,158	8,316	12,474	12,474	4,158			\$ 41,580
Repairs and Maintenance	\$ 31,702 year	2,642	2,642	2,642	2,642	2,642	2,642	2,642	2,642	2,642	2,642	2,642	\$ 31,702
Telephone	\$ 2,500 year	208	208	208	208	208	208	208	208	208	208	208	\$ 2,500
Accounting/legal	\$ 2,400 year	200	200	200	200	200	200	200	200	200	200	200	\$ 2,400
Bird chasing	\$ 2,000 year	500	500	250							250	500	\$ 2,000
Chemicals													
Salt	\$ 53 ton			39,750									\$ 39,750
Diuron, off-flavor control	\$ 9 trt/acre						2,250	9,000	2,250				\$ 13,500
Copper sulfate, trematode treat.	\$ 9 acre					6,750							\$ 6,750
Supplies & admin.	\$ 600 year	50	50	50	50	50	50	50	50	50	50	50	\$ 600
Taxes (except income)	\$ 30.36 year	-	-	-	22,767	-	-	-	-	-	-	-	\$ 22,767
Insurance	\$ 6.25 acre	4,688											
Total Cash Operating Expenses		42,119	37,431	358,301	59,974	80,563	61,576	72,991	84,676	42,327	37,169	56,116	37,431 \$ 970,674
Scheduled debt payments													
Intermediate - principal interest		-	-	-	-	-	-	125,730	-	-	-	-	\$ 125,730
Long-term - principal interest		51,730	35,026					26,654	99,076				
TOTAL CASH OUTFLOW		128,875	37,431	358,301	59,974	80,563	61,576	324,451	84,676	42,327	37,169	56,116	37,431 \$ 1,096,404
CASH AVAILABLE		(128,375)	(36,931)	(357,801)	(59,474)	1,375,762	(488,225)	(323,951)	1,301,824	1,259,497	1,222,328	1,207,485	1,170,053
New Borrowing		128,875	37,431	358,301	59,974	-	488,725	324,451	-	-	-	-	-
Payment on													
Principal					1,733,570					813,176			
Interest					68,841					24,402			
ENDING CASH BALANCE		500	500	500	500	(426,649)	500	500	1,301,824	1,259,497	384,750	1,207,485	1,170,053
Summary of Debt Outstanding:													
Short-term		1,277,863	1,315,295	1,673,596	1,733,570	-	488,725	813,176	813,176	813,176	-	-	-
Intermediate-term		337,451	337,451	337,451	337,451	337,451	337,451	337,451	337,451	337,451	337,451	337,451	337,451
Long-term		1,100,847	1,100,847	1,100,847	1,100,847	1,100,847	1,100,847	1,074,193	1,074,193	1,074,193	1,074,193	1,074,193	1,074,193
TOTAL DEBT OUTSTANDING		2,716,161	2,753,593	3,111,894	3,171,868	1,438,298	1,927,023	2,224,820	2,224,820	2,224,820	1,411,644	1,411,644	1,411,644

/1 At this size operation on-farm labor will do the harvesting and only transportation costs apply.

Cash flow, Year 3, for a 250-acre catfish farm in the Delta, Mississippi, 2001.

Month		Jan-03	Feb-03	Mar-03	Apr-03	May-03	Jun-03	Jul-03	Aug-03	Sep-03	Oct-03	Nov-03	Dec-03	Total
Fish sales (lb)		0	0	1,181,250	0	2,079,750	0	0	1,980,000	0	-	1,255,500	0	6,496,500
BEGINNING CASH BALANCE		1,170,053	1,041,178	1,003,747	1,454,527	1,394,553	2,769,839	2,708,263	2,509,543	3,810,892	3,768,565	3,731,396	4,554,155	
Cash Inflows														
Catfish sales	\$ 0.70 lb	0	0	826,875	0	1,455,825	0	0	1,386,000	0	0	878,850		4,547,550
TOTAL CASH INFLOW		1,170,053	1,041,178	1,830,622	1,454,527	2,850,378	2,769,839	2,708,263	3,895,543	3,810,892	3,768,565	4,610,246	4,554,155	
Operating Expenses														
Feed, food fish	\$ 280 ton	7,770	8,400	63,420	171,150	228,060	203,490	309,960	297,360	269,430	218,190	5,880	5,880	1,788,990
Labor														
Farm manager	\$ 95,000 year	7,917	7,917	7,917	7,917	7,917	7,917	7,917	7,917	7,917	7,917	7,917	7,917	95,000
Hired laborer	\$ 299,500 week	24,958	24,958	24,958	24,958	24,958	24,958	24,958	24,958	24,958	24,958	24,958	24,958	299,500
Fingerlings, 5" (4"-6" range)	\$ 0.05 each			281,250										281,250
Harvest /1														
Seining	\$ - lb.	-	-	-	-	-	-	-	-	-	-	-	-	-
Transport	\$ 0.015 per lb	-	-	17,719	-	31,196	-	-	29,700	-	-	18,833	-	97,448
Fuel & lubricants														
Diesel														
- PTO-driven aeration	\$ 1.05 gallon						11,246	11,246						22,491
- Mowing	\$ 1.05 gallon			120	120	120	120	120	120	120	120			958
Gasoline														
- Transportation	\$ 1.25 gallon	781	781	781	781	781	781	781	781	781	781	781	781	9,375
- Boat and harvesting	\$ 1.25 gallon			75		75			75			75		300
Utilities														
Aeration + Meter charge	\$0.932 kw-hr	175	175	175	332	1,483	2,888	3,395	3,276	1,293	292	177	175	13,836
Water pumping to flush ponds	\$55.44 /3ac-ft/yr					4,158	8,316	12,474	12,474	4,158				41,580
Repairs and Maintenance	\$ 31,702 year	2,642	2,642	2,642	2,642	2,642	2,642	2,642	2,642	2,642	2,642	2,642	2,642	31,702
Telephone	\$ 2,500 year	208	208	208	208	208	208	208	208	208	208	208	208	2,500
Accounting/legal	\$ 2,400 year	200	200	200	200	200	200	200	200	200	200	200	200	2,400
Bird chasing	\$ 2,000 year	500	500	250								250	500	2,000
Chemicals														
Salt	\$ 53 ton			39,750										39,750
Diuron, off-flavor control	\$ 9 trt/acre						2,250	9,000	2,250					13,500
Copper sulfate, trematode treat.	\$ 9 acre					6,750								6,750
Supplies & admin.	\$ 600 year	50	50	50	50	50	50	50	50	50	50	50	50	600
Taxes (except income)	\$ 30.36 year	-	-	-	22,767	-	-	-	-	-	-	-	-	22,767
Insurance	\$ 6.25 acre	4,688												
Total Cash Operating Expenses		42,119	37,431	376,095	59,974	80,538	61,576	72,991	84,651	42,327	37,169	56,091	37,431	988,393
Scheduled debt payments														
Intermediate - principal		56,386	-	-	-	-	-	-	-	-	-	-	-	56,386
interest		30,371												
Long-term - principal								29,053						
interest								96,677						
TOTAL CASH OUTFLOW		128,875	37,431	376,095	59,974	80,538	61,576	198,721	84,651	42,327	37,169	56,091	37,431	1,044,779
CASH AVAILABLE		1,041,178	1,003,747	1,454,527	1,394,553	2,769,839	2,708,263	2,509,543	3,810,892	3,768,565	3,731,396	4,554,155	4,516,724	
New Borrowing		-	-	-	-	-	-	-	-	-	-	-	-	-
Payment on														
Principal														
Interest														
ENDING CASH BALANCE		1,041,178	1,003,747	1,454,527	1,394,553	2,769,839	2,708,263	2,509,543	3,810,892	3,768,565	3,731,396	4,554,155	4,516,724	
Summary of Debt Outstanding:														
Short-term		-	-	-	-	-	-	-	-	-	-	-	-	-
Intermediate-term		281,066	281,066	281,066	281,066	281,066	281,066	281,066	281,066	281,066	281,066	281,066	281,066	
Long-term		1,074,193	1,074,193	1,074,193	1,074,193	1,074,193	1,074,193	1,045,140	1,045,140	1,045,140	1,045,140	1,045,140	1,045,140	
TOTAL DEBT OUTSTANDING		1,355,259	1,355,259	1,355,259	1,355,259	1,355,259	1,355,259	1,326,206	1,326,206	1,326,206	1,326,206	1,326,206	1,326,206	

/1 At this size operation on-farm labor will do the harvesting and only transportation costs apply.

Cash flow, Year 4, for a 250-acre catfish farm in the Delta, Mississippi, 2001.

Month	Jan-04	Feb-04	Mar-04	Apr-04	May-04	Jun-04	Jul-04	Aug-04	Sep-04	Oct-04	Nov-04	Dec-04	Total
Fish sales (lb)	0	0	1,181,250	0	2,079,750	0	0	1,980,000	0	-	1,255,500	0	6,496,500
BEGINNING CASH BALANCE	4,516,724	4,387,849	4,350,417	4,801,197	4,741,223	6,116,510	6,054,934	5,856,213	7,157,562	7,115,235	7,078,067	7,900,826	
Cash Inflows													
Catfish sales \$ 0.70 lb	0	0	826,875	0	1,455,825	0	0	1,386,000	0	0	878,850		4,547,550
TOTAL CASH INFLOW	4,516,724	4,387,849	5,177,292	4,801,197	6,197,048	6,116,510	6,054,934	7,242,213	7,157,562	7,115,235	7,956,917	7,900,826	
Operating Expenses													
Feed, food fish \$ 280 ton	7,770	8,400	63,420	171,150	228,060	203,490	309,960	297,360	269,430	218,190	5,880	5,880	1,788,990
Labor													
Farm manager \$ 95,000 year	7,917	7,917	7,917	7,917	7,917	7,917	7,917	7,917	7,917	7,917	7,917	7,917	95,000
Hired laborer \$ 299,500 week	24,958	24,958	24,958	24,958	24,958	24,958	24,958	24,958	24,958	24,958	24,958	24,958	299,500
Fingerlings, 5" (4"-6" range) \$ 0.05 each			281,250										281,250
Harvest /1													
Seining \$ - lb.	-	-	-	-	-	-	-	-	-	-	-	-	-
Transport \$ 0.015 per lb	-	-	17,719	-	31,196	-	-	29,700	-	-	18,833	-	97,448
Fuel & lubricants													
Diesel													
- PTO-driven aeration \$ 1.05 gallon						11,246	11,246						22,491
- Mowing \$ 1.05 gallon			120	120	120	120	120	120	120	120			958
Gasoline													
- Transportation \$ 1.25 gallon	781	781	781	781	781	781	781	781	781	781	781	781	9,375
- Boat and harvesting \$ 1.25 gallon			75		75			75			75		300
Utilities													
Aeration + Meter charge \$0.932 kw-hr	175	175	175	332	1,483	2,888	3,395	3,276	1,293	292	177	175	13,836
Water pumping to flush ponds \$55.44 /3ac-ft/yr					4,158	8,316	12,474	12,474	4,158				41,580
Repairs and Maintenance \$ 31,702 year	2,642	2,642	2,642	2,642	2,642	2,642	2,642	2,642	2,642	2,642	2,642	2,642	31,702
Telephone \$ 2,500 year	208	208	208	208	208	208	208	208	208	208	208	208	2,500
Accounting/legal \$ 2,400 year	200	200	200	200	200	200	200	200	200	200	200	200	2,400
Bird chasing \$ 2,000 year	500	500	250								250	500	2,000
Chemicals													
Salt \$ 53 ton			39,750										39,750
Diuron, off-flavor control \$ 9 trt/acre						2,250	9,000	2,250					13,500
Copper sulfate, trematode treat. \$ 9 acre					6,750								6,750
Supplies & admin. \$ 600 year	50	50	50	50	50	50	50	50	50	50	50	50	600
Taxes (except income) \$ 30.36 year	-	-	-	22,767	-	-	-	-	-	-	-	-	22,767
Insurance \$ 6.25 acre	4,688												
Total Cash Operating Expenses	42,119	37,431	376,095	59,974	80,538	61,576	72,991	84,651	42,327	37,169	56,091	37,431	988,393
Scheduled debt payments													
Intermediate - principal	61,460	-	-	-	-	-	-	-	-	-	-	-	61,460
interest	25,296												
Long-term - principal							31,668						
interest							94,063						
TOTAL CASH OUTFLOW	128,875	37,431	376,095	59,974	80,538	61,576	198,721	84,651	42,327	37,169	56,091	37,431	1,049,853
CASH AVAILABLE	4,387,849	4,350,417	4,801,197	4,741,223	6,116,510	6,054,934	5,856,213	7,157,562	7,115,235	7,078,067	7,900,826	7,863,394	
New Borrowing	-	-	-	-	-	-	-	-	-	-	-	-	-
Payment on													
Principal													
Interest													
ENDING CASH BALANCE	4,387,849	4,350,417	4,801,197	4,741,223	6,116,510	6,054,934	5,856,213	7,157,562	7,115,235	7,078,067	7,900,826	7,863,394	
Summary of Debt Outstanding:													
Short-term	-	-	-	-	-	-	-	-	-	-	-	-	-
Intermediate-term	219,606	219,606	219,606	219,606	219,606	219,606	219,606	219,606	219,606	219,606	219,606	219,606	
Long-term	1,045,140	1,045,140	1,045,140	1,045,140	1,045,140	1,045,140	1,013,472	1,013,472	1,013,472	1,013,472	1,013,472	1,013,472	
TOTAL DEBT OUTSTANDING	1,264,745	1,264,745	1,264,745	1,264,745	1,264,745	1,264,745	1,233,078	1,233,078	1,233,078	1,233,078	1,233,078	1,233,078	

/1 At this size operation on-farm labor will do the harvesting and only transportation costs apply.

Cash flow, Year 5, for a 250-acre catfish farm in the Delta, Mississippi, 2001.

Month		Jan-05	Feb-05	Mar-05	Apr-05	May-05	Jun-05	Jul-05	Aug-05	Sep-05	Oct-05	Nov-05	Dec-05	Total
Fish sales (lb)		0	0	1,181,250	0	2,079,750	0	0	1,980,000	0	-	1,255,500	0	6,496,500
BEGINNING CASH BALANCE		7,863,394	7,734,519	7,697,088	8,147,868	8,110,660	9,485,947	9,424,371	9,225,650	10,526,999	10,484,672	10,447,504	11,270,263	
Cash Inflows														
Catfish sales	\$ 0.70 lb	0	0	826,875	0	1,455,825	0	0	1,386,000	0	0	878,850		4,547,550
TOTAL CASH INFLOW		7,863,394	7,734,519	8,523,963	8,147,868	9,566,485	9,485,947	9,424,371	10,611,650	10,526,999	10,484,672	11,326,354	11,270,263	
Operating Expenses														
Feed, food fish	\$ 280 ton	7,770	8,400	63,420	171,150	228,060	203,490	309,960	297,360	269,430	218,190	5,880	5,880	1,788,990
Labor														
Farm manager	\$ 95,000 year	7,917	7,917	7,917	7,917	7,917	7,917	7,917	7,917	7,917	7,917	7,917	7,917	95,000
Hired laborer	\$ 299,500 week	24,958	24,958	24,958	24,958	24,958	24,958	24,958	24,958	24,958	24,958	24,958	24,958	299,500
Fingerlings, 5" (4"-6" range)	\$ 0.05 each			281,250										281,250
Harvest /1														
Seining	\$ - lb.	-	-	-	-	-	-	-	-	-	-	-	-	-
Transport	\$ 0.015 per lb	-	-	17,719	-	31,196	-	-	29,700	-	-	18,833	-	97,448
Fuel & lubricants														
Diesel														
- PTO-driven aeration	\$ 1.05 gallon						11,246	11,246						22,491
- Mowing	\$ 1.05 gallon			120	120	120	120	120	120	120	120			958
Gasoline														
- Transportation	\$ 1.25 gallon	781	781	781	781	781	781	781	781	781	781	781	781	9,375
- Boat and harvesting	\$ 1.25 gallon			75		75			75			75		300
Utilities														
Aeration + Meter charge	\$0.932 kw-hr	175	175	175	332	1,483	2,888	3,395	3,276	1,293	292	177	175	13,836
Water pumping to flush ponds	\$55.44 /3ac-ft/yr					4,158	8,316	12,474	12,474	4,158				41,580
Repairs and Maintenance	\$ 31,702 year	2,642	2,642	2,642	2,642	2,642	2,642	2,642	2,642	2,642	2,642	2,642	2,642	31,702
Telephone	\$ 2,500 year	208	208	208	208	208	208	208	208	208	208	208	208	2,500
Accounting/legal	\$ 2,400 year	200	200	200	200	200	200	200	200	200	200	200	200	2,400
Bird chasing	\$ 2,000 year	500	500	250								250	500	2,000
Chemicals														
Salt	\$ 53 ton			39,750										39,750
Diuron, off-flavor control	\$ 9 tr/acre						2,250	9,000	2,250					13,500
Copper sulfate, trematode treat.	\$ 9 acre					6,750								6,750
Supplies & admin.	\$ 600 year	50	50	50	50	50	50	50	50	50	50	50	50	600
Taxes (except income)	year	-	-	-	-	-	-	-	-	-	-	-	-	-
Insurance	\$ 6.25 acre	4,688												4,688
Total Cash Operating Expenses		42,119	37,431	376,095	37,208	80,538	61,576	72,991	84,651	42,327	37,169	56,091	37,431	965,626
Scheduled debt payments														
Intermediate - principal		66,992	-	-	-	-	-	-	-	-	-	-	-	66,992
interest		19,765												
Long-term - principal								34,518						
interest								91,212						
TOTAL CASH OUTFLOW		128,875	37,431	376,095	37,208	80,538	61,576	198,721	84,651	42,327	37,169	56,091	37,431	1,032,618
CASH AVAILABLE		7,734,519	7,697,088	8,147,868	8,110,660	9,485,947	9,424,371	9,225,650	10,526,999	10,484,672	10,447,504	11,270,263	11,232,832	
New Borrowing		-	-	-	-	-	-	-	-	-	-	-	-	-
Payment on														
Principal														
Interest														
ENDING CASH BALANCE		7,734,519	7,697,088	8,147,868	8,110,660	9,485,947	9,424,371	9,225,650	10,526,999	10,484,672	10,447,504	11,270,263	11,232,832	
Summary of Debt Outstanding:														
Short-term		-	-	-	-	-	-	-	-	-	-	-	-	-
Intermediate-term		152,614	152,614	152,614	152,614	152,614	152,614	152,614	152,614	152,614	152,614	152,614	152,614	
Long-term		1,013,472	1,013,472	1,013,472	1,013,472	1,013,472	1,013,472	978,954	978,954	978,954	978,954	978,954	978,954	
TOTAL DEBT OUTSTANDING		1,166,086	1,166,086	1,166,086	1,166,086	1,166,086	1,166,086	1,131,568	1,131,568	1,131,568	1,131,568	1,131,568	1,131,568	

/1 At this size operation on-farm labor will do the harvesting and only transportation costs apply.

DeltaMS_750_spreadsheet ver 2 6_0.xls

Principal:	Annual interest rate:	Term (years):	Periods per year:	Start date:
1,125,300	9.00%	19	1	7/1/2001
Periodic Payment:		Number of payments:		
125,730		19		

Payment No	Month	Beginning balance	Total payment	Interest	Principal	Ending balance	Cumulative interest
1	Jul-01	1,125,300	125,730	101,277	24,453	1,100,847	101,277
2	Jul-02	1,100,847	125,730	99,076	26,654	1,074,193	200,353
3	Jul-03	1,074,193	125,730	96,677	29,053	1,045,140	297,031
4	Jul-04	1,045,140	125,730	94,063	31,668	1,013,472	391,093
5	Jul-05	1,013,472	125,730	91,212	34,518	978,954	482,306
6	Jul-06	978,954	125,730	88,106	37,624	941,330	570,412
7	Jul-07	941,330	125,730	84,720	41,011	900,320	655,131
8	Jul-08	900,320	125,730	81,029	44,701	855,618	736,160
9	Jul-09	855,618	125,730	77,006	48,725	806,894	813,166
10	Jul-10	806,894	125,730	72,620	53,110	753,784	885,786
11	Jul-11	753,784	125,730	67,841	57,890	695,894	953,627
12	Jul-12	695,894	125,730	62,630	63,100	632,794	1,016,257
13	Jul-13	632,794	125,730	56,951	68,779	564,016	1,073,209
14	Jul-14	564,016	125,730	50,761	74,969	489,047	1,123,970
15	Jul-15	489,047	125,730	44,014	81,716	407,331	1,167,984
16	Jul-16	407,331	125,730	36,660	89,070	318,260	1,204,644
17	Jul-17	318,260	125,730	28,643	97,087	221,173	1,233,287
18	Jul-18	221,173	125,730	19,906	105,825	115,349	1,253,193
19	Jul-19	115,349	125,730	10,381	115,349	0	1,263,574
20	Jul-20	0	125,730	0	125,730	-125,730	1,263,574
21	Jul-21	0	125,730	0	125,730	-125,730	1,263,574
22	Jul-22	0	125,730	0	125,730	-125,730	1,263,574
23	Jul-23	0	125,730	0	125,730	-125,730	1,263,574
24	Jul-24	0	125,730	0	125,730	-125,730	1,263,574
25	Jul-25	0	125,730	0	125,730	-125,730	1,263,574
26	Jul-26	0	125,730	0	125,730	-125,730	1,263,574
27	Jul-27	0	125,730	0	125,730	-125,730	1,263,574
28	Jul-28	0	125,730	0	125,730	-125,730	1,263,574
29	Jul-29	0	125,730	0	125,730	-125,730	1,263,574
30	Jul-30	0	125,730	0	125,730	-125,730	1,263,574
31	Jul-31	0	125,730	0	125,730	-125,730	1,263,574
32	Jul-32	0	125,730	0	125,730	-125,730	1,263,574
33	Jul-33	0	125,730	0	125,730	-125,730	1,263,574
34	Jul-34	0	125,730	0	125,730	-125,730	1,263,574
35	Jul-35	0	125,730	0	125,730	-125,730	1,263,574
36	Jul-36	0	125,730	0	125,730	-125,730	1,263,574
37	Jul-37	0	125,730	0	125,730	-125,730	1,263,574
38	Jul-38	0	125,730	0	125,730	-125,730	1,263,574
39	Jul-39	0	125,730	0	125,730	-125,730	1,263,574
40	Jul-40	0	125,730	0	125,730	-125,730	1,263,574
41	Jul-41	0	125,730	0	125,730	-125,730	1,263,574
42	Jul-42	0	125,730	0	125,730	-125,730	1,263,574
43	Jul-43	0	125,730	0	125,730	-125,730	1,263,574
44	Jul-44	0	125,730	0	125,730	-125,730	1,263,574
45	Jul-45	0	125,730	0	125,730	-125,730	1,263,574

DeltaMS_750_spreadsheet ver 2 6_0.xls

Principal:	Annual interest rate:	Term (years):	Periods per year:	Start date:
1,125,300	9.00%	19	1	7/1/2001
Periodic Payment:		Number of payments:		
125,730		19		

Payment No	Month	Beginning balance	Total payment	Interest	Principal	Ending balance	Cumulative interest
46	Jul-46	0	125,730	0	125,730	-125,730	1,263,574
47	Jul-47	0	125,730	0	125,730	-125,730	1,263,574
48	Jul-48	0	125,730	0	125,730	-125,730	1,263,574
49	Jul-49	0	125,730	0	125,730	-125,730	1,263,574
50	Jul-50	0	125,730	0	125,730	-125,730	1,263,574
51	Jul-51	0	125,730	0	125,730	-125,730	1,263,574
52	Jul-52	0	125,730	0	125,730	-125,730	1,263,574
53	Jul-53	0	125,730	0	125,730	-125,730	1,263,574
54	Jul-54	0	125,730	0	125,730	-125,730	1,263,574
55	Jul-55	0	125,730	0	125,730	-125,730	1,263,574
56	Jul-56	0	125,730	0	125,730	-125,730	1,263,574
57	Jul-57	0	125,730	0	125,730	-125,730	1,263,574
58	Jul-58	0	125,730	0	125,730	-125,730	1,263,574
59	Jul-59	0	125,730	0	125,730	-125,730	1,263,574
60	Jul-60	0	125,730	0	125,730	-125,730	1,263,574
61	Jul-61	0	125,730	0	125,730	-125,730	1,263,574
62	Jul-62	0	125,730	0	125,730	-125,730	1,263,574
63	Jul-63	0	125,730	0	125,730	-125,730	1,263,574
64	Jul-64	0	125,730	0	125,730	-125,730	1,263,574
65	Jul-65	0	125,730	0	125,730	-125,730	1,263,574
66	Jul-66	0	125,730	0	125,730	-125,730	1,263,574
67	Jul-67	0	125,730	0	125,730	-125,730	1,263,574
68	Jul-68	0	125,730	0	125,730	-125,730	1,263,574
69	Jul-69	0	125,730	0	125,730	-125,730	1,263,574
70	Jul-70	0	125,730	0	125,730	-125,730	1,263,574
71	Jul-71	0	125,730	0	125,730	-125,730	1,263,574
72	Jul-72	0	125,730	0	125,730	-125,730	1,263,574
73	Jul-73	0	125,730	0	125,730	-125,730	1,263,574
74	Jul-74	0	125,730	0	125,730	-125,730	1,263,574
75	Jul-75	0	125,730	0	125,730	-125,730	1,263,574
76	Jul-76	0	125,730	0	125,730	-125,730	1,263,574
77	Jul-77	0	125,730	0	125,730	-125,730	1,263,574
78	Jul-78	0	125,730	0	125,730	-125,730	1,263,574
79	Jul-79	0	125,730	0	125,730	-125,730	1,263,574
80	Jul-80	0	125,730	0	125,730	-125,730	1,263,574
81	Jul-81	0	125,730	0	125,730	-125,730	1,263,574
82	Jul-82	0	125,730	0	125,730	-125,730	1,263,574
83	Jul-83	0	125,730	0	125,730	-125,730	1,263,574
84	Jul-84	0	125,730	0	125,730	-125,730	1,263,574
85	Jul-85	0	125,730	0	125,730	-125,730	1,263,574
86	Jul-86	0	125,730	0	125,730	-125,730	1,263,574
87	Jul-87	0	125,730	0	125,730	-125,730	1,263,574
88	Jul-88	0	125,730	0	125,730	-125,730	1,263,574
89	Jul-89	0	125,730	0	125,730	-125,730	1,263,574
90	Jul-90	0	125,730	0	125,730	-125,730	1,263,574
91	Jul-91	0	125,730	0	125,730	-125,730	1,263,574

DeltaMS_750_spreadsheet ver 2 6_0.xls

Principal:	Annual interest rate:	Term (years):	Periods per year:	Start date:
1,125,300	9.00%	19	1	7/1/2001
Periodic Payment:		Number of payments:		
125,730		19		

Payment No	Month	Beginning balance	Total payment	Interest	Principal	Ending balance	Cumulative interest
92	Jul-92	0	125,730	0	125,730	-125,730	1,263,574
93	Jul-93	0	125,730	0	125,730	-125,730	1,263,574
94	Jul-94	0	125,730	0	125,730	-125,730	1,263,574
95	Jul-95	0	125,730	0	125,730	-125,730	1,263,574
96	Jul-96	0	125,730	0	125,730	-125,730	1,263,574
97	Jul-97	0	125,730	0	125,730	-125,730	1,263,574
98	Jul-98	0	125,730	0	125,730	-125,730	1,263,574
99	Jul-99	0	125,730	0	125,730	-125,730	1,263,574
100	Jul-00	0	125,730	0	125,730	-125,730	1,263,574

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Principal:	Annual interest rate:	Term (years):	Periods per year:	Start date:
436,640	9.00%	7	1	1/1/2001
Periodic Payment:		Number of payments:		
86,756		7		

Payment No	Month	Beginning balance	Total payment	Interest	Principal	Ending balance	Cumulative interest
1	Jan-01	436,640	86,756	39,298	47,459	389,181	39,298
2	Jan-02	389,181	86,756	35,026	51,730	337,451	74,324
3	Jan-03	337,451	86,756	30,371	56,386	281,066	104,695
4	Jan-04	281,066	86,756	25,296	61,460	219,606	129,990
5	Jan-05	219,606	86,756	19,765	66,992	152,614	149,755
6	Jan-06	152,614	86,756	13,735	73,021	79,593	163,490
7	Jan-07	79,593	86,756	7,163	79,593	0	170,654
8	Jan-08	0	86,756	0	86,756	-86,756	170,654
9	Jan-09	0	86,756	0	86,756	-86,756	170,654
10	Jan-10	0	86,756	0	86,756	-86,756	170,654
11	Jan-11	0	86,756	0	86,756	-86,756	170,654
12	Jan-12	0	86,756	0	86,756	-86,756	170,654
13	Jan-13	0	86,756	0	86,756	-86,756	170,654
14	Jan-14	0	86,756	0	86,756	-86,756	170,654
15	Jan-15	0	86,756	0	86,756	-86,756	170,654
16	Jan-16	0	86,756	0	86,756	-86,756	170,654
17	Jan-17	0	86,756	0	86,756	-86,756	170,654
18	Jan-18	0	86,756	0	86,756	-86,756	170,654
19	Jan-19	0	86,756	0	86,756	-86,756	170,654
20	Jan-20	0	86,756	0	86,756	-86,756	170,654
21	Jan-21	0	86,756	0	86,756	-86,756	170,654
22	Jan-22	0	86,756	0	86,756	-86,756	170,654
23	Jan-23	0	86,756	0	86,756	-86,756	170,654
24	Jan-24	0	86,756	0	86,756	-86,756	170,654
25	Jan-25	0	86,756	0	86,756	-86,756	170,654
26	Jan-26	0	86,756	0	86,756	-86,756	170,654
27	Jan-27	0	86,756	0	86,756	-86,756	170,654
28	Jan-28	0	86,756	0	86,756	-86,756	170,654
29	Jan-29	0	86,756	0	86,756	-86,756	170,654
30	Jan-30	0	86,756	0	86,756	-86,756	170,654
31	Jan-31	0	86,756	0	86,756	-86,756	170,654
32	Jan-32	0	86,756	0	86,756	-86,756	170,654
33	Jan-33	0	86,756	0	86,756	-86,756	170,654
34	Jan-34	0	86,756	0	86,756	-86,756	170,654
35	Jan-35	0	86,756	0	86,756	-86,756	170,654
36	Jan-36	0	86,756	0	86,756	-86,756	170,654
37	Jan-37	0	86,756	0	86,756	-86,756	170,654
38	Jan-38	0	86,756	0	86,756	-86,756	170,654
39	Jan-39	0	86,756	0	86,756	-86,756	170,654
40	Jan-40	0	86,756	0	86,756	-86,756	170,654
41	Jan-41	0	86,756	0	86,756	-86,756	170,654
42	Jan-42	0	86,756	0	86,756	-86,756	170,654
43	Jan-43	0	86,756	0	86,756	-86,756	170,654

DeltaMS_750_spreadsheet ver 2 6_0.xls

Principal:	Annual interest rate:	Term (years):	Periods per year:	Start date:
436,640	9.00%	7	1	1/1/2001
Periodic Payment:		Number of payments:		
86,756		7		

Payment No	Month	Beginning balance	Total payment	Interest	Principal	Ending balance	Cumulative interest
44	Jan-44	0	86,756	0	86,756	-86,756	170,654
45	Jan-45	0	86,756	0	86,756	-86,756	170,654
46	Jan-46	0	86,756	0	86,756	-86,756	170,654
47	Jan-47	0	86,756	0	86,756	-86,756	170,654
48	Jan-48	0	86,756	0	86,756	-86,756	170,654
49	Jan-49	0	86,756	0	86,756	-86,756	170,654
50	Jan-50	0	86,756	0	86,756	-86,756	170,654
51	Jan-51	0	86,756	0	86,756	-86,756	170,654
52	Jan-52	0	86,756	0	86,756	-86,756	170,654
53	Jan-53	0	86,756	0	86,756	-86,756	170,654
54	Jan-54	0	86,756	0	86,756	-86,756	170,654
55	Jan-55	0	86,756	0	86,756	-86,756	170,654
56	Jan-56	0	86,756	0	86,756	-86,756	170,654
57	Jan-57	0	86,756	0	86,756	-86,756	170,654
58	Jan-58	0	86,756	0	86,756	-86,756	170,654
59	Jan-59	0	86,756	0	86,756	-86,756	170,654
60	Jan-60	0	86,756	0	86,756	-86,756	170,654
61	Jan-61	0	86,756	0	86,756	-86,756	170,654
62	Jan-62	0	86,756	0	86,756	-86,756	170,654
63	Jan-63	0	86,756	0	86,756	-86,756	170,654
64	Jan-64	0	86,756	0	86,756	-86,756	170,654
65	Jan-65	0	86,756	0	86,756	-86,756	170,654
66	Jan-66	0	86,756	0	86,756	-86,756	170,654
67	Jan-67	0	86,756	0	86,756	-86,756	170,654
68	Jan-68	0	86,756	0	86,756	-86,756	170,654
69	Jan-69	0	86,756	0	86,756	-86,756	170,654
70	Jan-70	0	86,756	0	86,756	-86,756	170,654
71	Jan-71	0	86,756	0	86,756	-86,756	170,654
72	Jan-72	0	86,756	0	86,756	-86,756	170,654
73	Jan-73	0	86,756	0	86,756	-86,756	170,654
74	Jan-74	0	86,756	0	86,756	-86,756	170,654
75	Jan-75	0	86,756	0	86,756	-86,756	170,654
76	Jan-76	0	86,756	0	86,756	-86,756	170,654
77	Jan-77	0	86,756	0	86,756	-86,756	170,654
78	Jan-78	0	86,756	0	86,756	-86,756	170,654
79	Jan-79	0	86,756	0	86,756	-86,756	170,654
80	Jan-80	0	86,756	0	86,756	-86,756	170,654
81	Jan-81	0	86,756	0	86,756	-86,756	170,654
82	Jan-82	0	86,756	0	86,756	-86,756	170,654
83	Jan-83	0	86,756	0	86,756	-86,756	170,654
84	Jan-84	0	86,756	0	86,756	-86,756	170,654
85	Jan-85	0	86,756	0	86,756	-86,756	170,654
86	Jan-86	0	86,756	0	86,756	-86,756	170,654
87	Jan-87	0	86,756	0	86,756	-86,756	170,654
88	Jan-88	0	86,756	0	86,756	-86,756	170,654
89	Jan-89	0	86,756	0	86,756	-86,756	170,654

DeltaMS_750_spreadsheet ver 2 6_0.xls

Principal:	Annual interest rate:	Term (years):	Periods per year:	Start date:
436,640	9.00%	7	1	1/1/2001
Periodic Payment:		Number of payments:		
86,756		7		

Payment No	Month	Beginning balance	Total payment	Interest	Principal	Ending balance	Cumulative interest
90	Jan-90	0	86,756	0	86,756	-86,756	170,654
91	Jan-91	0	86,756	0	86,756	-86,756	170,654
92	Jan-92	0	86,756	0	86,756	-86,756	170,654
93	Jan-93	0	86,756	0	86,756	-86,756	170,654
94	Jan-94	0	86,756	0	86,756	-86,756	170,654
95	Jan-95	0	86,756	0	86,756	-86,756	170,654
96	Jan-96	0	86,756	0	86,756	-86,756	170,654
97	Jan-97	0	86,756	0	86,756	-86,756	170,654
98	Jan-98	0	86,756	0	86,756	-86,756	170,654
99	Jan-99	0	86,756	0	86,756	-86,756	170,654
100	Jan-00	0	86,756	0	86,756	-86,756	170,654

Macros:

New_rows (Command-Option-r) inserts additional rows onto template

Principal:	Annual interest rate:	Term (years):	Periods per year:	Start date:
175,000	9.00%	1	1	8/1/2000
Periodic Payment:		Number of payments:		
190,750		1		

Payment No	Month	Beginning balance	Total payment	Interest	Principal	Ending balance	Cumulative interest
1	Aug-00	175,000	190,750	15,750	175,000	0	15,750
2	Aug-01	0	190,750	0	190,750	-190,750	15,750
3	Aug-02	0	190,750	0	190,750	-190,750	15,750
4	Aug-03	0	190,750	0	190,750	-190,750	15,750
5	Aug-04	0	190,750	0	190,750	-190,750	15,750
6	Aug-05	0	190,750	0	190,750	-190,750	15,750
7	Aug-06	0	190,750	0	190,750	-190,750	15,750
8	Aug-07	0	190,750	0	190,750	-190,750	15,750
9	Aug-08	0	190,750	0	190,750	-190,750	15,750
10	Aug-09	0	190,750	0	190,750	-190,750	15,750
11	Aug-10	0	190,750	0	190,750	-190,750	15,750
12	Aug-11	0	190,750	0	190,750	-190,750	15,750
13	Aug-12	0	190,750	0	190,750	-190,750	15,750
14	Aug-13	0	190,750	0	190,750	-190,750	15,750
15	Aug-14	0	190,750	0	190,750	-190,750	15,750
16	Aug-15	0	190,750	0	190,750	-190,750	15,750
17	Aug-16	0	190,750	0	190,750	-190,750	15,750
18	Aug-17	0	190,750	0	190,750	-190,750	15,750
19	Aug-18	0	190,750	0	190,750	-190,750	15,750
20	Aug-19	0	190,750	0	190,750	-190,750	15,750
21	Aug-20	0	190,750	0	190,750	-190,750	15,750
22	Aug-21	0	190,750	0	190,750	-190,750	15,750
23	Aug-22	0	190,750	0	190,750	-190,750	15,750
24	Aug-23	0	190,750	0	190,750	-190,750	15,750
25	Aug-24	0	190,750	0	190,750	-190,750	15,750
26	Aug-25	0	190,750	0	190,750	-190,750	15,750
27	Aug-26	0	190,750	0	190,750	-190,750	15,750
28	Aug-27	0	190,750	0	190,750	-190,750	15,750
29	Aug-28	0	190,750	0	190,750	-190,750	15,750
30	Aug-29	0	190,750	0	190,750	-190,750	15,750
31	Aug-30	0	190,750	0	190,750	-190,750	15,750
32	Aug-31	0	190,750	0	190,750	-190,750	15,750
33	Aug-32	0	190,750	0	190,750	-190,750	15,750
34	Aug-33	0	190,750	0	190,750	-190,750	15,750
35	Aug-34	0	190,750	0	190,750	-190,750	15,750
36	Aug-35	0	190,750	0	190,750	-190,750	15,750
37	Aug-36	0	190,750	0	190,750	-190,750	15,750
38	Aug-37	0	190,750	0	190,750	-190,750	15,750
39	Aug-38	0	190,750	0	190,750	-190,750	15,750
40	Aug-39	0	190,750	0	190,750	-190,750	15,750
41	Aug-40	0	190,750	0	190,750	-190,750	15,750
42	Aug-41	0	190,750	0	190,750	-190,750	15,750
43	Aug-42	0	190,750	0	190,750	-190,750	15,750

DeltaMS_750_spreadsheet ver 2 6_0.xls

Principal:	Annual interest rate:	Term (years):	Periods per year:	Start date:
175,000	9.00%	1	1	8/1/2000
Periodic Payment:		Number of payments:		
190,750		1		

Payment No	Month	Beginning balance	Total payment	Interest	Principal	Ending balance	Cumulative interest
44	Aug-43	0	190,750	0	190,750	-190,750	15,750
45	Aug-44	0	190,750	0	190,750	-190,750	15,750
46	Aug-45	0	190,750	0	190,750	-190,750	15,750
47	Aug-46	0	190,750	0	190,750	-190,750	15,750
48	Aug-47	0	190,750	0	190,750	-190,750	15,750
49	Aug-48	0	190,750	0	190,750	-190,750	15,750
50	Aug-49	0	190,750	0	190,750	-190,750	15,750
51	Aug-50	0	190,750	0	190,750	-190,750	15,750
52	Aug-51	0	190,750	0	190,750	-190,750	15,750
53	Aug-52	0	190,750	0	190,750	-190,750	15,750
54	Aug-53	0	190,750	0	190,750	-190,750	15,750
55	Aug-54	0	190,750	0	190,750	-190,750	15,750
56	Aug-55	0	190,750	0	190,750	-190,750	15,750
57	Aug-56	0	190,750	0	190,750	-190,750	15,750
58	Aug-57	0	190,750	0	190,750	-190,750	15,750
59	Aug-58	0	190,750	0	190,750	-190,750	15,750
60	Aug-59	0	190,750	0	190,750	-190,750	15,750
61	Aug-60	0	190,750	0	190,750	-190,750	15,750
62	Aug-61	0	190,750	0	190,750	-190,750	15,750
63	Aug-62	0	190,750	0	190,750	-190,750	15,750
64	Aug-63	0	190,750	0	190,750	-190,750	15,750
65	Aug-64	0	190,750	0	190,750	-190,750	15,750
66	Aug-65	0	190,750	0	190,750	-190,750	15,750
67	Aug-66	0	190,750	0	190,750	-190,750	15,750
68	Aug-67	0	190,750	0	190,750	-190,750	15,750
69	Aug-68	0	190,750	0	190,750	-190,750	15,750
70	Aug-69	0	190,750	0	190,750	-190,750	15,750
71	Aug-70	0	190,750	0	190,750	-190,750	15,750
72	Aug-71	0	190,750	0	190,750	-190,750	15,750
73	Aug-72	0	190,750	0	190,750	-190,750	15,750
74	Aug-73	0	190,750	0	190,750	-190,750	15,750
75	Aug-74	0	190,750	0	190,750	-190,750	15,750
76	Aug-75	0	190,750	0	190,750	-190,750	15,750
77	Aug-76	0	190,750	0	190,750	-190,750	15,750
78	Aug-77	0	190,750	0	190,750	-190,750	15,750
79	Aug-78	0	190,750	0	190,750	-190,750	15,750
80	Aug-79	0	190,750	0	190,750	-190,750	15,750
81	Aug-80	0	190,750	0	190,750	-190,750	15,750
82	Aug-81	0	190,750	0	190,750	-190,750	15,750
83	Aug-82	0	190,750	0	190,750	-190,750	15,750
84	Aug-83	0	190,750	0	190,750	-190,750	15,750
85	Aug-84	0	190,750	0	190,750	-190,750	15,750
86	Aug-85	0	190,750	0	190,750	-190,750	15,750
87	Aug-86	0	190,750	0	190,750	-190,750	15,750
88	Aug-87	0	190,750	0	190,750	-190,750	15,750
89	Aug-88	0	190,750	0	190,750	-190,750	15,750

DeltaMS_750_spreadsheet ver 2 6_0.xls

Principal:	Annual interest rate:	Term (years):	Periods per year:	Start date:
175,000	9.00%	1	1	8/1/2000
Periodic Payment:		Number of payments:		
190,750		1		

Payment No	Month	Beginning balance	Total payment	Interest	Principal	Ending balance	Cumulative interest
90	Aug-89	0	190,750	0	190,750	-190,750	15,750
91	Aug-90	0	190,750	0	190,750	-190,750	15,750
92	Aug-91	0	190,750	0	190,750	-190,750	15,750
93	Aug-92	0	190,750	0	190,750	-190,750	15,750
94	Aug-93	0	190,750	0	190,750	-190,750	15,750
95	Aug-94	0	190,750	0	190,750	-190,750	15,750
96	Aug-95	0	190,750	0	190,750	-190,750	15,750
97	Aug-96	0	190,750	0	190,750	-190,750	15,750
98	Aug-97	0	190,750	0	190,750	-190,750	15,750
99	Aug-98	0	190,750	0	190,750	-190,750	15,750
100	Aug-99	0	190,750	0	190,750	-190,750	15,750