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Budgets for Trout Production

Estimated Costs and Returns for Trout Farming in the South

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Budgets included in this publication reflect a compilation of prices and operating costs obtained from trout producers in North Carolina in 1989, and reflect dollars actually spent or received by the producers. Each budget is in a standard farm budget format and is based upon a pair of tanks with a common center wall, and would need to be expanded to estimate the target farm production level.

On a typical trout farm in the South, six to ten uses of the water are quite feasible, and up to twenty uses are not uncommon if the slope of the land permits. Land costs are **not** included in these estimates. The returns to investment capital for establishment are reflected in the last line of each operating budget, the "returns to land, overhead and management." The cost of borrowed capital for establishment is factored into these budgets. However, interest is included as a cost for operating capital. For purposes of this publication, a "farm-gate" sales price of $1.25 per pound of whole fish was used to calculate returns.

How to use these budgets

Small farm example

The "small farm" budgets are for estimating establishment and operating costs for trout farms producing up to 100,000 pounds per year. For example, on a relatively small farm expecting approximately 36,000 pounds annual production, a system would consist of six pairs of tanks in series, with a minimum water flow of 500 gallons per minute (slightly less than 1 cubic foot per second). Each tank would have an average carrying capacity of 1,500 pounds of trout and an annual production of slightly more than 3,000 pounds, based upon a loading rate of 6 pounds of trout per gallon per minute inflow and a density of approximately 3 pounds per cubic foot of volume. In this case the total establishment cost would be 6 X $4,391.34 = $26,348.04. The labor values included in the establishment costs assume that most of the construction has been completed by contracted labor rather than the owner. Any construction the farm owner can do would reduce the total cost proportionately.

Larger farm example

For a trout farm with a larger water supply and suitable site to allow more construction, the costs of establishment will be reduced per unit of tank volume constructed. This budget is to be used to estimate costs for farms expecting to produce from 100,000 to over 500,000 pounds of trout each year. In the following example, a facility producing approximately 150,000 pounds annually, six serial reuses of the water would be required for paired tanks producing 12,000 pounds each. The water flow required for this system would be a minimum of 3,800 gallons per minute (8.3 cubic feet per second). The average loading rate would be 6.5 pounds per gallon per minute, and the average stocking density would be approximately 4.5 pounds per cubic foot of water volume. Savings in construction of this facility come primarily from efficiencies gained by building larger tanks. The total estimated cost for this system would be 6 X $16,592.67 = $99,556.02. Again, substantial savings could be expected if the owner completed portions of the construction.

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Establishment Costs (Small Farm, <100,000 Pounds)

Estimated costs for establishment of one pair of up to ten pairs[1] of tanks constructed in series. More than one series may be constructed. Expected annual production of 6,000 pounds per pair.

Category	Units	Price	Quantity	Value
Site preparation				$187.50
Concrete floor[3]	Yards[3]	54.00	9.07	$489.78
Concrete walls[3]	Yards[3]	54.00	7.39	$399.06
Reinforcing steel	Pair			$232.50
Drain pipe	Pair			$232.50
Screening	Pair			$37.50
Tank forms	Pair			$137.50
Snapties and wedges	Pair			$250.00
Labor	Hourly	5.00	197.50	$987.50
Water intake assembly	Pair			$812.50
Miscellaneous	Pair			$625.00
Total establishment cost				$4,391.34

[1]Budget done in pairs of tanks due to sharing a common wall.
[2]Each tank based on dimensions of 35 feet long by 6 feet wide.
[3]Floor and walls at 6 inches thick.

Your Establishment Costs (Small Farm, <100,000 Pounds)

Category	Units	Price	Quantity	Value
Site preparation				
Concrete floor				
Concrete walls				
Reinforcing steel				
Drain pipe				
Screening				
Tank forms				
Snapties and wedges				
Labor				
Water intake assembly				
Miscellaneous				
Total establishment cost				

[redacted]

[2]Amount of feed consumed based on a 2:1 food conversion ra

[3]Amount of medicated feed figured as 10% of total feed fed.

Annual Operating Budget for an Experienced Grower - Small Farm

Estimated annual revenue, operating expenses, ownership expenses and returns to land, overhead and management for raising trout in one pair of 35' X 6' tanks, water flow = 500 gallons per minute.

Category	Units	Price	Quantity	Value
Production returns				
Trout[1]	Lbs.	1,25	6,564.87	$8,206.09
Operating inputs				
5" Fingerlings	Each	0.15	9,412.00	$1,411.80
Standard feed[2]	cwt.	23.00	87.36	$2,009.17
Medicated feed[3]	CWt.	34.00	9.71	$330.01
Chemicals	Variable			$37.50
Electricity	Month	11.25	12.00	$135.00
Machinery repair cost	Pair			$62.50
Total variable cost				$3,985.98
Returns to land, labor, capital, machinery, overhead and management				$4,220.11
Capital cost:				
Annual operating capital		0.12	3,985.98	$478.32
Establishment investment				$219.57
Total interest charge				$697.88
Returns to land, labor, machinery, overhead and management				$3,522.23
Ownership cost: (depreciation, taxes, insurance)				
Establishment				$253.78
Total ownership cost				$253.78
Returns to land, labor, overhead and management				$3,268.45
Total labor cost	Hourly	5.00	180.00	$900.00
Returns to land, overhead and management				$2,368.45

Variable cost per pound = $0.61

Total cost per pound = $0.89

'Based on final weight of 12 oz./fish and 7% mortality.

[2]Amount of feed consumed based on a 1.5:1 food conversion rate,

[3]Amount of medicated feed figured as 10% of total feed fed.

Establishment Costs (Large Farm, >100,000 Pounds)

Estimated costs for establishment of one pair of up to ten pairs[1] of tanks constructed in series. More than one series may be constructed. Expected annual production of 24,000 pounds per pair.

Category	Units	Price	Quantity	Value
Site preparation				$187.50
Concrete floor[3]	Yards[3]	54.00	44.96	$2,427.84
Concrete walls[3]	Yards[3]	54.00	19.42	$1,048.68
Reinforcing steel	Pair			$909.33
Drain pipe	Pair			$909.33
Screening	Pair			$37.50
Tank forms	Pair			$537.78
Snapties and wedges	Pair			$977.77
Labor	Hourly	5.00	772.50	$3,862.50
Water intake assembly	Pair			$3,250.00
Miscellaneous	Pair			$2,444.44
Total establishment cost				$16,592.67

Your Establishment Costs (Large Farm, >100,000 Pounds)

Category	Units	Price	Quantity	Value
Site preparation				
Concrete floor				
Concrete walls				
Reinforcing steel				
Drain pipe				
Screening				
Tank forms				
Snapties and wedges				
Labor				
Water intake assembly				
Miscellaneous				
Total establishment cost				

Standard or New Producer Budget - Large Farm

Estimated annual revenue, operating expenses, ownership expenses and returns to land, overhead and management for raising trout in one pair of 12' X 70' tanks, water flow = 3,800 gallons per minute.

Category	Units	Price	Quantity	Value
Production returns				
Trout[1]	Pounds	1.25	24,000.00	$30,000.00
Operating inputs				
5" Fingerlings	Each	0.15	37,648.00	$5,647.20
Standard feed[2]	cwt.	23.00	425.23	$9,780.39
Medicated feed[3]	cwt.	34.00	47.25	$1,606.44
Chemicals	Variable			$150.00
Electricity	Month	45.00	12.00	$540.00
Machinery repair cost	Pair			$250.00
Total variable cost				$17,974.03
Returns to land, labor, capital, machinery, overhead and management				$12,025.97
Capital cost:				
Annual operating capital		0.12	17,974.03	$2,156.88
Establishment investment				$829.63
Total capital				$2,986.52
Returns to land, labor, machinery, overhead and management				$9,039.46
Ownership cost: (depreciation, taxes, insurance)				
Establishment				$959.18
Returns to land, labor, overhead and management				$8,080.28
Labor cost:				
Other labor	Hourly	5.00	384.00	$1,920.00
Returns to land, overhead and management				$6,160.28

Variable cost per pound = $0.75

Total cost per pound = $0.99

[1] Based on final weight of 12 oz./fish and 15% mortality.

[2] Amount of feed consumed based on 2:1 food conversion rate.

[3] Amount of medicated feed figured as 10% of total feed fed.

Annual Operating Budget for an Experienced Grower - Large Farm

Estimated annual revenue, operating expenses, ownership expenses and returns to land, overhead and management for raising trout in one pair of 70' X 12' tanks, water flow = 3,800 gallons per minute.

Category	Units	Price	Quantity	Value
Production returns				
Trout[1]	Lbs.	1.25	26,259.48	$32,824.35
Operating inputs				
5" Fingerlings	Each	0.15	37,648.00	$5,647.20
Standard feed[2]	cwt.	23.00	349.42	$8,036.67
Medicated feed[3]	cwt.	34.00	38.82	$1,320.03
Chemicals	Variable			150.00
Electricity	Month	45.00	12.00	$540.00
Machinery repair cost	Pair			$250.00
Total variable cost				$15,943.90
Returns to land, labor, capital, machinery, overhead and management				$16,880.45
Capital cost:				
Annual operating capital		0.12	15,943.90	$1,913.27
Establishment investment				$829.63
Total interest charge				$2,742.90
Returns to land, labor, machinery, overhead and management				$14,137.54
Ownership cost: (depreciation, taxes, insurance)				
Establishment				$959.18
Total ownership cost				$959.18
Returns to land, labor, overhead and management				$13,178.36
Labor cost	Hourly	5.00	384.00	$1,920.00
Returns to land, overhead and management				$11,258.36

Variable cost per pound = $0.61

Total cost per pound = $0.82

[1]Based on final weight of 12 oz./fish and 7% mortality.

[2]Amount of feed consumed based on a 1.5:1 food conversion rate.

[3]Amount of medicated feed figured as 10% of total feed fed.

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