

WVU & NRAC WORKSHOP

Estimating Costs

Debra Sloan

NC Dept. of Agriculture & Consumer Science

Agribusiness & Aquaculture Specialist

828.524.5020

debrasloan@earthlink.net

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What is your Objective?

- 1. Is this a Primary source of Income?**
- 2. Is this a Secondary source of Income?**
- 3. Why Aquaculture?**
- 4. Can you answer these questions?**
- 5. Are you confident of your answers?**
- 6. Answer the questions again!!!**

Estimating Costs

1. **Fixed Costs**
2. **Variable Costs**
3. **Enterprise Budget – Robinhood**
4. **The influence of fixed costs on overall long term profitability.**
5. **Strategies for getting started**

Fixed Costs

**Establishment Costs - farm build out
excluding land cost**

Taxes – Property, Income & Payroll

Insurance – Liability & Property

Knowing your Production Costs

Production Costs – Fish & Feed Only!

Fish \$0.13 per fish

Feed costs \$0.38/lb.

Feed Conversion Ratio (FCR) = 1.3

1.3 FCR X \$0.38 feed/lb. = \$0.49 feed cost per lb.

Fish cost = \$0.13

Feed Costs = \$0.38

Minimum production costs per lb. = \$0.51/lb.

Annual Stocking Plan

3 Stockings of 5,000 fish per stocking

April – 5,000

August – 5,000

October – 5,000

Total Fish Stocked – 15,000/ 3” Fish

Annual Production Expenses

Fingerling Costs = \$1,950.00

Fish – 15,000 X \$0.13

Feed Costs = \$7,410

FCR = 1.3

Feed used = 19,500 lbs.

\$0.38/lb.

Annual Fish & Feed Expenses = \$ 9,340.00

Establishment Costs – Facility

Alternative Types of Production Systems & Establishment Costs

System 1 – Honeycomb fiber reinforced polymer

System 2 – Concrete tank 6” poured walls

System 3 – Polypropylene Tank & liner

Establishment Costs

System Type 1

Honeycomb fiber reinforced polymer

Materials for construction - \$23.14 cubic ft.

Installation \$ 4,63 cubic ft.

Establishment Cost per cubic ft. = \$27.77

Tanks system - 280 cubic ft. Total cubic ft. = 2,240

Total = 2,240 cubic ft. X \$27.77

Establishment Costs = \$62,204.80

Establishment Costs

System Type 2

Concrete with 6" poured walls

Materials for Construction - \$7.78 cubic ft.

Installation - \$1.11 cubic ft.

Establishment Cost = \$8.89 per cubic feet

Tank system – 280 cubic feet

Total Cubic ft. = 2,240

Total Establishment Cost = \$17,427.72

Establishment Costs

System Type 3

Polypropylene Tank & Liner

Materials for construction - \$ 5.87 cubic ft.

Installation \$ 0,99 cubic ft.

Establishment Cost per cubic ft. = \$6.77

Tanks system - 280 cubic ft.

Total cubic ft. = 2,240

Total = 2,240 cubic ft. X \$ 6.77

Establishment Costs = \$15,164.80

Alternative System Comparison Establishment Costs

Type 1 – \$ 62,204.80

Type 2 – \$ 17,427.22

Type 3 - \$ 15,164.80

Costs - Secondary Income

Annual Costs

Fish – 15,000 X \$0.13 = \$ 1,950

Mortality – 10% X 15,000 = 1,500

Inventory surviving to mkt. = 13,500

Feed – \$0.38 lb. X 15,000 = 19,500 lbs.

FCR – 1.3

Farm Operated for Secondary Income

Facility built without incurring Debt

Primary Costs – Fish & Feed

Labor is NOT assigned a Cost

Not operated as a Business!

Secondary Income Costs

Fish – 15,000/yr	\$ 1,950
Feed – FCR 1.3	\$ 7,410
Miscellaneous Costs	\$ 500
TOTAL COSTS	\$ 9,860

Farm – Primary Income

Farm operated as a Business Enterprise

Points to Consider:

Labor & Payroll Taxes

Separate banking

Insurance

Utilities

Equipment

Administration Costs

Variable Costs

Feed Costs – dependent on FCR & Fish Health

Fish Costs – dependent on Stocking Plan &
annual mortality

Variable Costs

Aquatic Animal Health – routine health maintenance, Certification for transport – interstate or intrastate

Permits – State aquaculture license, NPDES permit, transport or stocking permit

Waste Management – permits & system or technologies for capture, removal & disposal

Other Costs

Owner/Operator Labor

\$10.00 per hour & 20 hours per week

\$200 per week Gross Income

\$10,400 per year of Gross Income

Utilities

Facilities using pumps:

Gravity flow **\$ 000.00/yr**
No pumping

Supplemental Power **\$ 150.00/yr.**
Intermittent use of pump

Pumping water to run facility **\$1,500.00/yr**
Pumping cost may be higher

Equipment

Start up cost = \$1,500 - \$5,000

Screens, graders, dip nets, pump, etc.

Items replaced as needed

Estimated Cost = \$ 750.00/yr.

Supplies

Farm Operations - Waders, baskets, gloves, rain gear, rubber boots, etc.

Administration – paper, software, calculator, pens, pencils, notebooks for record keeping, etc.

Estimated Variable Costs

Labor	\$10,400
Payroll Taxes	\$ 3,120
Waste Mgt. - approx	\$ 500
State Permits – approx	\$ 500
Utilities – approx.	\$ 750
Insurance – approx	\$ 1,000
Equipment – approx	\$ 500
Administration approx	\$ 500
TOTAL	\$17,270
Without Labor costs	\$ 3,750

Total Costs- Year 1

Establishment Cost – Type 2	\$17,427.22
Fish & Feed	\$ 9,360.00
Operational Costs	\$17,270.00
Total Costs	\$44,057.22

Establishment Cost only occurs in Year 1.

Total Costs – Year 2

Fish & Feed	\$ 9,360.00
Operational Costs	\$17,270.00
Total Costs	\$26,630.00

Strategies

- * **Start small & increase production**
- * **Contract Production**
- * **Team up with another farmer to maximize productive capacity**
- * **Vary Stocking Plan**
- * **Develop a Marketing Plan**

Do you want to invest in aquaculture?

- ✓ **Do your homework – visit other farms**
- ✓ **Ask questions, a lot of questions**
- ✓ **Decide how much money you want to spend – invest wisely – profit???**
- ✓ **Look closely at income & expenses**
- ✓ **Write a Business Plan**
- ✓ **What is your return on your investment?**

Summary

- **Farming is very labor intensive.**
- **One management mistake could be very expensive.**
- **Learn about that Best Management Practices are essential!!!**
- **How much time ? Ask other farmers!**
- **It could mean your production cost increase multifold!**
- **Management is the key to a successful Ag Enterprise!**