



Assessing Profitability of a Mariculture Operation



Student Worksheet Name _____

You will use a farm enterprise budget tool to determine the profitability of a hypothetical oyster aquaculture business. You will work with an existing tool used by Virginia oyster farmers. Use the budget tool provided by your teacher to

answer the questions below. Click on the “Oyster Crop Budget” tab in the Excel budget tool. Some questions require that you change values in the spreadsheet to arrive at the correct answer.

1a. What are the top three operating expenses, top three fixed costs and top three permitting and ground leasing costs to operate the hypothetical oyster aquaculture business? Name them and provide the dollar amount for year 1 and year 2 of the business.

Operating Expenses	Dollar Amount in Year 1	Dollar Amount in Year 2
1.		
2.		
3.		
Fixed Costs	Dollar Amount in Year 1	Dollar Amount in Year 2
1.		
2.		
3.		
Permitting/Ground Leasing Costs	Dollar Amount in Year 1	Dollar Amount in Year 2
1.		
2.		
3.		



1b. Are there any costs that surprised you? Which one(s), and why?

2. In the enterprise budget tool, what are the key assumptions regarding average market price and oyster mortality rate?

3a. If you plant 400,000 oyster seed, what is the dollar amount of your annual oyster sales (market oyster revenue) in year 1 and year 2?

3b. What is the estimated pretax profit, or return on investment, in year 1 and year 2?

3c. Is your business profitable?



4a. Assume that the price of oysters increases from \$0.25 to \$.50 per oyster. What is the dollar amount of predicted annual oyster sales in year 1 and year 2?

4b. What is the estimated pretax profit, or return on investment, in year 1 and year 2?

4c. Is your business profitable?

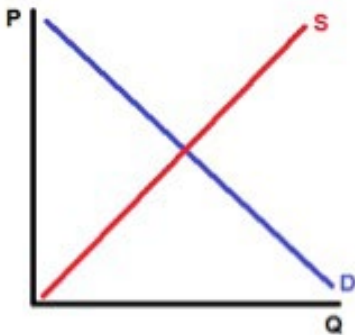
5a. Assume the price of oysters is again \$0.25 per oyster, but that the oyster mortality rate increases from 50% to 75% and the price of boat and truck fuel increases from \$4/gallon to \$6/gallon. How do these changes affect total annual expenses in year 1 and year 2?

5b. What is the estimated pretax profit, or return on investment, in year 1 and year 2?

5c. Is your business profitable?

6. List any additional costs not included in the budget tool. How might those costs affect the profitability of your oyster farm?

7. If consumer demand decreases for oysters, how are market prices likely to change? What is the effect on business profitability? Adjust the graph below to illustrate the effect of decreased demand on prices.



8. If supply of oysters decreases, how are market prices likely to change? What is the effect on business profitability? Adjust the graph below to illustrate the effect of decreased supply on prices.

