



Mobile Processing Unit Budget

Virtual Livestock Extension Field Day

Shannon Sand





What goes into it?

- Up front/ Fixed costs
- Variable costs
- Number of animals processed per month





Up Front or Fixed Costs

- Modular Harvest Unit
- Carcass Cooler
- Cut and Wrap Module with basic equipment
- Finished goods freezer unit
- Containment pens, squeeze chute
- Shipping
- Septic system
- USDA HACCP plan and training
- Other contingency costs





Up Front Cost of Modular Carcass System

Modular Harvest Unit including Pig Scalding	\$365,000.00
Carcass Cooler	\$100,000.00
Cut & Wrap Module with basic equipment	\$210,000.00
Finished Goods Freezer unit	\$30,000.00
Containment pens, squeeze chute	\$21,000.00
Shipping port	\$60,000.00
Septic system	\$60,000.00
USDA HACCP Plan and training	\$17,000.00
Other contingency costs	\$50,000.00
Total Cost	\$913,000.00





Other Costs/ Variable Costs

- Electricity
- Water
- Waste removal
- Other utilities
- Insurance
- Fuel
- Labor
- Maintenance





Other/ Variable Costs	Per Month
Electricity	\$5,000.00
Water	\$500.00
Waste removal	\$1,800.00
Other utilities	\$1,000.00
Insurance	\$500.00
Fuel	\$1,500.00
Labor	\$10,000.00
Maintenance	\$2,500.00
Total	\$22,800.00





Variable Cost Per Animal

- Variable cost per animal=VCa
- $$VCa = \frac{\textit{Total Variable Cost per month}}{\textit{Total Number of Animals per month}}$$





<u>Other variable costs</u>	<u>PER MONTH</u>
Electricity	\$5,000.00
Water	\$500.00
Waste removal	\$1,800.00
Other utilities	\$1,000.00
Insurance	\$500.00
Fuel	\$1,500.00
Labor	\$10,000.00
Maintenance	\$2,500.00
Total	\$22,800.00
<i>Variable Cost per animal</i>	<i>\$76.00</i>





Revenue Per Animal

- This is the amount the mobile slaughter unit charges per animal for processing





<u>Category</u>	<u>Per Month</u>
Electricity	\$5,000.00
Water	\$500.00
Waste removal	\$1,800.00
Other utilities	\$1,000.00
Insurance	\$500.00
Fuel	\$1,500.00
Labor	\$10,000.00
Maintenance	\$2,500.00
Total	\$22,800.00
<i>Variable Cost per animal</i>	\$76.00
Revenue per animal	\$120.00
<i>Contribution Margin</i>	\$44.00
Total number of Hogs	300





Contribution Margin

- Contribution Margin=CM
- $CM = \text{Revenue per animal} - \text{Variable Cost per animal}$
- Ex. $\$100 - \$40 = \$60$ contribution margin





Other/ variable costs	Per month
Electricity	\$5,000.00
Water	\$500.00
Waste removal	\$1,800.00
Other utilities	\$1,000.00
Insurance	\$500.00
Fuel	\$1,500.00
Labor	\$10,000.00
Maintenance	\$2,500.00
Total	\$22,800.00
<i>Variable Cost per animal</i>	\$76.00
Revenue per animal	\$120.00
<i>Contribution Margin</i>	\$44.00
Total number of Hogs	300





Break Even Point (Units)

- Break even point for units calculation tells us how many animals need to be processed in order for the unit to have paid for itself
- Break even point units=BEP_u
- $BEP_u = TFC / (RPa - VCa)$





Total	\$22,800.00
<i>Variable Cost per animal</i>	\$76.00
Revenue per animal	\$120.00
<i>Contribution Margin</i>	\$44.00
Total number of Hogs	300
Break even Point (Units)	20750





Break Even Point (\$)

- The break even point (\$) tells us how much we need to earn in order for the unit to pay for itself
- Break even point dollars=BEP\$
- $BEP\$ = \frac{TFC}{1 - \left(\frac{VCa}{RPa}\right)}$





Total	\$22,800.00
<i>Variable Cost per animal</i>	\$76.00
Revenue per animal	\$120.00
<i>Contribution Margin</i>	\$44.00
Total number of Hogs	300
Break even Point (Units)	20750
Break even Point (\$)	\$2,490,000





Number of Months

- To calculate how many months it should take to pay off up front or fixed costs
- *Number of Months to Break even* =
$$\frac{BEP_u}{\text{Total number of animals per month}}$$





Labor	\$10,000.00
Maintenance	\$2,500.00
Total	\$22,800.00
<i>Variable Cost per animal</i>	<i>\$76.00</i>
Revenue per animal	\$120.00
<i>Contribution Margin</i>	<i>\$44.00</i>
Total number of Hogs	300
Break even Point (Units)	20750
Break even Point (\$)	\$2,490,000
Number of months to pay off with fixed costs and given pricing	69





A	B	C	D
	Up Front/ Fixed Cost of Modular Carcass System		
	Modular Harvest Unit including Pig Scalder	\$365,000.00	
	Carcass Cooler	\$100,000.00	
	Cut & Wrap Module with basic equipment	\$210,000.00	
	Finished Goods Freezer unit	\$30,000.00	
	Containment pens, squeeze chute	\$21,000.00	
	Shipping port	\$60,000.00	
	Septic system	\$60,000.00	
	USDA HACCP Plan and training	\$17,000.00	
	Other contingency costs	\$50,000.00	
	Total Cost	\$913,000.00	
	Other/ Variable Costs	Per Month	
	Electricity	\$5,000.00	
	Water	\$500.00	
	Waste removal	\$1,800.00	
	Other utilities	\$1,000.00	
	Insurance	\$500.00	
	Fuel	\$1,500.00	
	Labor	\$10,000.00	
	Maintenance	\$2,500.00	
	Total	\$22,800.00	
	<i>Variable Cost per animal</i>	<i>\$76.00</i>	
	Revenue per animal	\$120.00	
	<i>Contribution Margin</i>	<i>\$44.00</i>	
	Total number of Hogs	300	
	Break even Point (Units)	20750	
	Break even Point (\$)	\$2,490,000	
	Number of months to pay off with fixed costs and given pricing	69	





2	Up Front Cost of Modular Carcass System		
3	Modular Harvest Unit	\$365,000.00	
4	Carcass Cooler	\$100,000.00	
5	Cut & Wrap Module with basic equipment	\$210,000.00	
6	Finished Goods Freezer unit	\$30,000.00	
7	Containment pens, squeeze chute	\$21,000.00	
8	Shipping port	\$60,000.00	
9	Septic system	\$60,000.00	
10	USDA HACCP Plan and training	\$17,000.00	
11	Other contingency costs	\$50,000.00	
12	Total Cost	\$913,000.00	
13			
14			
15			
16	Other/ Variable Costs	Per Month	
17	Electricity	\$5,000.00	
18	Water	\$1,000.00	
19	Waste removal	\$900.00	
20	Other utilities	\$1,000.00	
21	Insurance	\$500.00	
22	Fuel	\$2,000.00	
23	Labor	\$15,000.00	
24	Maintenance	\$2,500.00	
25	Total	\$27,900.00	
26	<i>Variable Cost per animal</i>	\$558.00	
27			
28	Revenue per animal	\$800.00	
29			
30	<i>Contribution Margin</i>	\$242.00	
31			
32	Total number of Cattle processed in a month	50	
33			
34			
35			
36	Break even Point (Units)	3773	
37	Break even Point (\$)	\$3,018,182	
38	Number of months to pay off with fixed cost	75	
39			





Thank You

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