

Name: _____

**ECON 337: Agricultural Marketing
Spring 2014**

**Homework 3: Livestock Marketing
Due: 03/11/2014**

1. You are a manager for a wean-to-finish operation and want to determine the expected marginal return from feeding pigs to different weights. You know this will depend on several production measures and gather the following data to help with the analysis.

Cost of late finisher diet, \$/lb	\$0.1875
Finisher ADG, lb	1.85
Facility cost, \$/pig/day	\$0.10
Carcass price, \$/lb	\$0.90
Finishing mortality, %	3.5%
Average days on feed	120
Yield, %	75.0%
Number of pigs	1000

- a. The table below shows the shows the cumulative amount of feed at 5 pound increments of increasing live selling weight for finished hogs near market weight. Calculate the incremental amount of feed, incremental feed/gain, and marginal cost of gain for each 5 pound increase in live selling weight.

Carcass weight, lb	Live wt, lb	Cumulative feed, lb	Incremental feed, lb	Incremental Feed/Gain	Marginal cost of gain, \$/lb gain
157.5	210	470.308			
161.3	215	486.343			
165.0	220	502.582			
168.8	225	519.024			
172.5	230	535.670			
176.3	235	552.520			
180.0	240	569.573			
183.8	245	586.829			
187.5	250	604.289			
191.3	255	621.953			
195.0	260	639.820			
198.8	265	657.891			
202.5	270	676.165			
206.3	275	694.642			
210.0	280	713.324			
213.8	285	732.208			
217.5	290	751.297			
221.3	295	770.589			
225.0	300	790.084			

- b. If the selling price for finished hogs is \$0.90 per pound carcass, what is the optimal live selling weight for your hogs? Explain how you determined this. Hint: $\text{Live Price} = \text{Carcass Price} \times \text{Yield}$
- c. If the price of feed increased to \$0.20 per pound and the selling price for finished hogs is \$0.90 per pound carcass, would you expect the optimal live selling weight to increase, decrease, or stay the same? Explain why you expect this result.
- d. What is the optimal selling weight if the price of feed is \$0.20 per pound and the selling price for finished hogs is \$0.90 per pound carcass? Calculate the incremental amount of feed, incremental feed/gain, and marginal cost of gain for each 5 pound increase in live selling weight. Show and explain how you determined this.

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