

Name: \_\_\_\_\_

**ECON 337: Agricultural Marketing  
Spring 2016**

**Homework 5: Livestock Marketing  
Due: 04/26/2016**

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	\$0.1575
Finisher ADG, lb	1.85
Facility cost, \$/pig/day	\$0.10
Carcass price, \$/lb	\$0.78
Finishing mortality, %	3.5%
Average days on feed	120
Yield, %	75.0%
Number of pigs	1,000

- 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	470.31			
161.3	215	486.34			
165.0	220	502.58			
168.8	225	519.02			
172.5	230	535.67			
176.3	235	552.52			
180.0	240	569.57			
183.8	245	586.83			
187.5	250	604.29			
191.3	255	621.95			
195.0	260	639.82			
198.8	265	657.89			
202.5	270	676.16			
206.3	275	694.64			
210.0	280	713.32			
213.8	285	732.21			
217.5	290	751.30			
221.3	295	770.59			
225.0	300	790.08			

- b. If the selling price for finished hogs is \$0.78 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 is \$0.1575 per pound and the selling price for finished hogs increased to \$0.80 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 \$0.1575 per pound and the selling price for finished hogs is \$0.80 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.

Carcass weight, lb	Live wt, lb	Cumulative feed, lb	Incremental feed, lb	Incremental Feed/Gain	Marginal cost of gain, \$/cwt gain
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