**Team Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 100 points**

**2018 Block and Bridle Stockman’s Contest - Senior Team Problem**

1. You are building a confinement barn to house and feed finishing market hogs. You would like to build a barn with twenty 8 × 16 foot pens. If a 270 pound market hog requires 11 square feet of floor space, how many hogs can fit in each pen (5 points)?

8 × 16 = 128 ft2 / 11 ft2 = 11.6 hogs 11 hogs per pen

1. What is the maximum capacity of finished market hogs for your building design (5 points)?

11 hogs per pen × 20 pens = 220 total hogs

1. If your hogs weighed 30 pounds as feeders hogs and you want to market them at 270 pounds. Your target ADG is 1.8 pounds per day. How many days would you expect these hogs to be on feed? Round your answer to the nearest day (10 points).

270 lbs. – 30 lbs. = 240 lbs. of gain / 1.8 lb. ADG = 133.33 = 133 days

1. Using the information from question 3, what is the purchase price for each feeder hog if you bought your hogs for $130.00 per cwt? Round to the nearest cent (10 points).

30 lbs. / 100 lbs. = 0.30 cwt × $130.00 = $39.00

1. Using your answers from questions 2 and 4, what is your total cost to purchase enough hogs to fill your barn? Round to the nearest cent (10 points).

220 hogs × $39.00 = $8,580.00

1. Your hogs are expected to eat an average of 6 pounds (2,722 grams) of feed a day on a dry matter basis. Lysine is an essential amino acid that supports proper growth. Your finishing diet is 0.60% lysine. How many grams of lysine is each hog consuming per day? Round to the nearest tenth of a gram (10 points).

2,722 g DMI × (0.60 / 100) = 16.3 g lysine intake

1. Based on the information from question 6 and answers from questions 2 and 3, how many total pounds of feed on a dry matter basis will you feed to the group of finishing pigs? Round to the nearest pound (10 points).

6 lbs. feed DM × 133 days × 220 hogs = 175,560 pounds of feed DM

1. Based on your answer to question 7, calculate the total cost to feed the group of market hogs if your finishing diet is $223.33 per ton of dry matter. Round to the nearest cent (10 points).

175,560 pounds / 2000 = 87.78 tons of feed × $223.33 = $19,603.91

1. If you sold your market hogs for at 270 pounds for $51.42 per cwt how much money did you receive for each hog? Round to the nearest cent (10 points).

270 lbs. / 100 lbs. = 2.7 cwt × $51.42 = $138.83

1. What was the total revenue from the sale of your group of market hogs? Round to the nearest cent (10 points).

220 hogs × $138.83 = $30,542.60

1. What is your gross profit/loss after hog purchase price and feed costs for finishing the group of market hogs? Round to the nearest cent (10 points).

$30,542.60 - $8,580.00 (hog purchase cost) = $21,962.60 - $19,603.91 = $2,358.69 profit