Team Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_ 2011 Virginia State Fair – Senior Team Problem

You have a spring cow-calf operation of a 105 commercial cows located in the Shenandoah Valley of Virginia. Its weaning time and you are in the process of deciding to either background your calves or sell them today. Today you just weaned 102 calves that consist of 55 steers and 47 heifers. The steer calves weighed an average of 615 lbs. and the heifers weighed 585 lbs.

1. If a 600 lbs. steer is worth $1.36 per pound, what is your average steer worth today? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (Round to the nearest penny)

615 lbs. steer X $1.36 = $836.40 per head

 This answer was thrown away and ten points were added to every team’s score.

1. You are trying to decide if you should wean the calves and background them to heavier weights. Current feed price for a 14 % protein commodity blend at your local cooperative is $265 per ton. Your hay cost is $80 per ton of grass hay. You plan on the group of calves to eat about 2% of their current body weight of hay. How many pounds of hay will the group of steer calves eat per day during weaning? \_\_\_\_\_\_\_\_\_\_\_\_\_\_ lbs. (Round up to the nearest pound)

615 lbs. steer X 2% = 12.3 lbs.

12.3 lbs. X 55 steers = 676.5 lbs.

Round to 676.5 lbs.

1. What is the average cost of hay per head per day for the steer calves? \_\_\_\_\_\_\_\_\_\_\_\_\_\_ (Round to the nearest penny)

$80 per ton hay / 2000 lbs in a ton = $0.04 per pound

$0.04 per pound \* 12.3 lbs. per head = $0.492 per head per day

Round to $0.49

1. You plan on backgrounding the steer calves for 120 days. How much will it cost to feed the entire group of steer calves just hay during the backgrounding phase? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Round to the nearest penny)

615 lbs. steer \* 2% = 12.3 lbs.

12.3 lbs. \* 55 steers = 676.5 lbs.

676.5 lbs. \* 120 days = 81,180 lbs.

81,180 lbs. / 2000 lbs = 40.59 tons

40.59 tons \* $80 = $3247.20

1. You plan on the group of calves to eat about 1.5% of their body weight of the 14% protein commodity grain. How many pounds of grain will the group of calves eat per day? \_\_\_\_\_\_\_\_\_\_\_\_\_\_ lbs. (Round up to the nearest pound)

615 lbs \* 1.5% = 9.225 lbs.

9.225 lbs. \* 55 head = 507. 375 lbs.

Round to 507 lbs.

1. What is the average cost of grain per head per day? \_\_\_\_\_\_\_\_\_\_\_\_\_\_ (Round to the nearest penny)

$265 per ton grain / 2000 lbs in a ton = $0.1325 per pound

$0.13.25 per pound \* 9.225 lbs. per head = $1.222313 per head per day

Round to $1.22

1. When backgrounded for 120 days, how much will it cost to feed the calves just the 14% protein commodity grain during the backgrounding phase? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Round to the nearest penny)

615 lbs. steer \* 1.5% = 12.3 lbs.

9.225 lbs. \* 55 steers = 507.375 lbs.

507.375 lbs. \* 120 days = 60,885 lbs.

 lbs. / 2000 lbs = 30.4425 tons

30.4425 tons \* $265 = $8067.263

Round to $8,067.26

1. The total cost of backgrounding the calves is $11,314.46. During the 120 day backgrounding period, your steer calves gained an average of 280 lbs. Your cost per pound of gain is $0.74. In February, you estimate that an 800 lbs. steer will sell for $1.25 per pound. What is your estimated average steer selling price per head? (Round to the nearest penny)

615 lbs + 280 lbs. = 895 lbs.

895 lbs. \* $1.25 = $1118.75 per head

1. What is the gross difference of backgrounding the calves and selling them in February compared to the selling the calves at weaning? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (Round to the nearest penny)

$1118.75 - $836.4 = $282.35

1. What is your net profit or loss per steer? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (Round to the nearest penny)

$11,314.46 cost of hay and grain / 55 head = $205.7175

$282.35 - $205.7175 = $76.6325

Round to $76.63