

National FFA Organization
2018 Meats Evaluation & Technology CDE
Meat Formulation Problem Solving

USDA Food Standards and Labeling Policy for Ground Beef:

Ground beef may not contain added fat. Maximum total fat 30 percent. Cheek meat is permitted up to 25 percent and must be declared in the ingredients statement. For more than 25 percent, show as “Ground Beef and Cheek Meat,” all the same size. Beef of skeletal origin or from the diaphragm or esophagus (weasand) may be used in the preparation of chopped beef, ground beef, or hamburger. Heart meat and tongue meat as organ meats are not acceptable ingredients in chopped beef, ground beef, or hamburger.

Specifications on ground beef for this activity:

1. Ingredients must be beef.
2. All fresh products must be stored at a temperature not to exceed 30° F.
3. No variety meats may be used.
4. No product more than four days old may be used.
5. Least cost determined should be performed on acceptable ingredients to select the lowest cost product that meets all ground beef guidelines.

You have received an order with the following specifications:

Desired fat content of finished product = 20%

Batch size = 5,000 lbs.

Manufacture date = Saturday, October 27

Available Ingredients

Product	Slaughter Date	Temp. “°F”	% Fat Content	\$ Price/lb.
Select Cutouts	October 23	29°	15%	1.97
Beef Chucks	October 24	30°	16%	2.08
90% Boxed Trim	October 22	29°	10%	2.93
Beef Tongues	October 23	29°	8%	1.36
70% Lean Trim	October 24	30°	30%	1.36
Lamb Legs	October 24	29°	17%	2.76
Beef Plates	October 24	29°	5%	4.91
Pork Center Loins	October 22	30°	11%	1.76

Instructions: Carefully read each item and possible answers. Mark the correct answers on the appropriate CDE form. Completely fill the chosen ovals to indicate your answers. You may write on this exam and utilize the back of other printed exams for scratch paper.

**Meat Formulation Problem Solving
Solution**

Which of the following was the correct formulation for this problem?

1. 70% Lean Trim & 90% Boxed Trim
2. 70% Lean Trim & Beef Chucks
3. 70% Lean Trim & Beef Plates
4. 70% Lean Trim & Beef Tongues
5. 70% Lean Trim & Lamb Legs
6. 70% Lean Trim & Pork Center Loins
7. 70% Lean Trim & Select Cutouts
8. Beef Tongues & Select Cutouts
9. Pork Center Loins & Lamb Legs
10. The correct formulation is not listed

**Meat Formulation Problem Solving
Questions**

1. What was the total cost of the correct final batch?
 - A. \$8,843.50
 - B. \$9,356.00
 - C. \$10,725.00
 - D. \$13,900.00
 - E. \$17,700.00
2. What was the price per pound of the correct final batch?
 - A. \$0.88
 - B. \$1.77
 - C. \$1.87
 - D. \$2.15
 - E. \$2.78
3. Which product was excluded from the correct final batch due to freshness?
 - A. 90% Boxed Trim
 - B. Beef Plates
 - C. Beef Tongues
 - D. Lamb Legs
 - E. All products met the freshness specification
4. How much of the correct final batch consisted of fat?
 - A. 0 lbs.
 - B. 1,000 lbs.
 - C. 4,000 lbs.
 - D. 2,000 lbs.
 - E. 8,000 lbs.
5. What percentage of the correct final batch consisted of 70% Lean Trim?
 - A. 0%
 - B. 17.0%
 - C. 30.3%
 - D. 33.0%
 - E. 70.3%
6. To the nearest pound, how much of the correct final batch consisted of Select Cutouts?
 - A. 0 lbs.
 - B. 1,000 lbs.
 - C. 1,667 lbs.
 - D. 3,350 lbs.
 - E. 5,000 lbs.
7. What is the primary reason for Beef Chucks to be omitted from the correct final batch?
 - A. Cost
 - B. Freshness
 - C. Temperature
 - D. Variety Specifications
 - E. Beef Chucks were not omitted
8. How many of the available ingredients were eliminated because they exceed the temperature constraints?
 - A. 1
 - B. 2
 - C. 3
 - D. 4
 - E. All of the ingredients had an acceptable temperature

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<i>KEY</i>

<u>Item</u>	<u>Answer</u>
Solution	#7
1.	A
2.	B
3.	A
4.	B
5.	D
6.	D
7.	A
8.	E