

Washington State FFA Meats Evaluation & Technology CDE

Meat Formulation Problem Solving

2023

Read the attached article (pages 4 and 5), titled “Beef Production Decreasing; Prices Higher,” which was recently published in Drovers.

Cows generally produce large amounts of lean beef trimmings, which are often imported from other countries, like Brazil, when U.S. supply is low. Fed (young) steers and heifers generally produce large amounts of fat beef trimmings, especially at very high USDA Yield Grades. It is not uncommon for 30% or more of a pen of feedlot cattle to produce USDA Yield Grade 4 or higher carcasses. Some processors will also use subprimals, like inside rounds, as a source of lean trimmings, if they can be bought cheaper than trimmings themselves.

You are a local, USDA-inspected meat shop operator seeking to sell ground beef patties to your customers during the grilling season this summer. You intend to source beef trimmings from a commercial packing plant that processes both cows and fed steers and heifers. You will grind the trimmings and generate 5,000 pounds of quarter-pound beef patties with an 85% lean point. You have no restriction on using fresh or frozen products.

From the list of ingredients below, select **no more than two** sources of trimmings with the lowest cost formulation for your needs. Prices are current in the market and were sourced from USDA reports (National Weekly Cow and Boneless Beef Summary, LSWCBBS; National Weekly Boxed Beef Cutout and Boxed Beef Cuts – Negotiated Sales) for the week ending May 19th.

Item		Price, \$/cwt ¹
A	Cow, Inside Rounds, 100%	396.44
B	Steer/Heifer, USDA Select Inside Rounds - Denuded, 100%	341.40
C	Steer/Heifer, USDA Select Mock Tenders, 100%	276.76
D	Cow Trimmings, Fresh, 93%	291.81
E	Cow Trimmings, Fresh, 90%	276.39
F	Cow Trimmings, Fresh, 85%	256.10
G	Steer/Heifer Trimmings, Fresh, 50%	189.19

¹ cwt = 100 pounds

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.

Solution (10 points):

Which of the following is the lowest cost formulation for your needs?

1. A and G
2. B and G
3. C and G
4. D and G
5. E and G
6. F only

Questions (5 points each):

1. What was the price per cwt of the correct final batch?
 - A. \$125.25/cwt
 - B. \$250.49/cwt
 - C. \$256.10/cwt
 - D. \$265.49/cwt
 - E. \$272.72/cwt

2. What was total final cost of the correct final batch?
 - A. \$ 6,262.50
 - B. \$12,524.50
 - C. \$12,805.00
 - D. \$13,274.50
 - E. \$13,636.00

3. How much of the correct final batch is comprised of Steer/Heifer Trimmings, Fresh, 50%?
 - A. 0 lbs.
 - B. 625 lbs.
 - C. 750 lbs.
 - D. 930 lbs.
 - E. 1,500 lbs.

4. How many patties can you expect to generate from your meat block?
 - A. 1,250 patties
 - B. 2,500 patties
 - C. 5,000 patties
 - D. 10,000 patties
 - E. 20,000 patties

5. Should your breakeven cost (the amount at which you profit from sales) on the ground patties be higher or lower than the cost of your trimmings alone?
 - A. Higher
 - B. Lower

6. During which month would you expect to be able to sell your beef patties for the most money?
 - A. July
 - B. September
 - C. November
 - D. December
 - E. January

7. Based on the article, should ground beef prices be higher or lower this year compared to last year?
 - A. Higher
 - B. Lower

8. What percentage of the correct final batch is from cow (not steer/heifer)?
 - A. 0%
 - B. 12.5%
 - C. 30%
 - D. 70%
 - E. 100%

Beef Production Decreasing; Prices Higher

By [DERRELL PEEL - OKLAHOMA STATE UNIVERSITY](#) March 27, 2023

As has been anticipated for several months, beef production is decreasing in 2023. In the last four weeks, beef production has averaged 6.4 percent lower compared to the same period last year. Lower beef production is the result of decreases in both cattle slaughter and carcass weights.

Steer slaughter is down 5.3 percent year over year in the last month and steer carcass weights have averaged 903 pounds, down 16 pounds from one year ago. Heifer slaughter has finally begun to decrease and is down 1.6 percent in the past month, with heifer carcass weights at 830 pounds, down 20 pounds year over year. Cow slaughter is down 6.8 percent year over year in the last four weeks, including a 0.9 percent increase in dairy cow slaughter and a 13.6 percent year over year decrease in beef cow slaughter. Cow carcass weights have averaged 646 pounds the last month, 11 pounds lower than the same period last year. Bull slaughter is down 14.6 percent from one year ago. Bull carcass weights have averaged 854 pounds in the last four weeks, down 26 pounds compared to one year ago.

Choice boxed beef cutout values have averaged \$285.13/cwt. the last month, up 11.0 percent year over year. Boxed beef prices are led by higher middle meat values, with rib primals up 21.4 percent and loin primals up 15.5 percent year over year. Chuck primal values have averaged 8.5 percent higher with round primals up 1.3 percent year over year. Short plate primals are 13.5 percent higher with flank primals up 16.4 percent year over year in the last month. Only the brisket primal is down, 8.5 percent lower compared to last year. Select beef cutout and primal values are higher by similar amounts. The Choice-Select spread continues to inch lower to a seasonal low. The Choice-Select spread typically reaches a seasonal low in February. The current spread of \$10.39/cwt. is the lowest weekly level so far this year, about a month later than the usual low

and still looking for a seasonal low.

Beef production is expected to drop more sharply for the remainder of the year, adding even more supply pressure to support prices. Current estimates for 2023 have beef production decreasing in a range from 4.5 to 6 percent lower year over year. The decrease will depend, in part on whether continued drought causes additional herd liquidation and temporarily moderates declining beef production and resulting in a smaller decrease.

The ground beef market is responding to lower beef production as well. Decreasing cow slaughter is already pushing 90 percent lean trimmings prices higher and decreased fed slaughter is pushing 50 percent lean trimmings prices higher as well. The latest Cold Storage report showed seasonally lower beef in cold storage, down 5.9 percent year over year, likely mostly reflecting the seasonal drawdown in beef trimmings. This contrasts with last year, when cold storage inventories remained high all year due to large cow slaughter.

As the calendar turns to April, seasonal grilling demand typically adds additional support for some beef cuts and the ground beef market. Wholesale beef market values typical begin to reflect summer grilling demand in April in preparation for the Memorial Day kickoff to summer beef demand.

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Solution (10 points):

1. 3 (C)

Questions (5 points each):

2. B

3. B

4. E

5. E

6. A

7. A

8. A

9. A