

National FFA Poultry CDE

Team Activity 2015

To answer questions 1 through 6 use the scenario provided below.

Scenario 1:

Poultry processing can be separated into several basic operating units. One of these unit operations occurs long before the chickens or turkeys reach the processing plant; these pre-processing steps are critical many reasons, and feed withdrawal is one step. On a broiler farm with 5 houses (house dimensions 50 ft x 500 ft), with 26,000 birds per house, the farmer turned the feed off at the bins at 8:00 in the evening, allowing 4 hours for the chickens to clean the feed lines prior to catching. Once after the birds were caught and cooped they were transported to the processing facility. At the plant it was determined that the average live weight for the flock was 7.25 lbs, also, during processing it was determined that carcass yields were as follows:

Carcass Part	Yield % ¹
Fillet	23.3
Tenders	10.2
Wings	11.6
Legs	25.7

¹ – Yield calculated as % of live weight

- 1.) Why is feed withdrawn prior to processing? (Page c-108 clear feces from lower intestine)
 - A. For cost savings for the farmer
 - B. To clear the feces from the lower intestine
 - C. To increase water intake prior to processing
 - D. To increase yield prior to processing
 - E. None of the above.
- 2.) Considering appropriate feed withdrawal times, what time range is this flock due for processing plant? (Page C-108 – 8:00-12:00)
 - A. 6:00 – 10:00
 - B. 7:00 – 11:00
 - C. 8:00 – 12:00
 - D. 9:00 – 1:00
 - E. 10:00 – 2:00
- 3.) Considering the live weight of this flock, which market segment were these broilers most likely grown for? (Page C-107 – further processing)
 - A. Further processing
 - B. Cut up for fast food
 - C. Cut up for tray pack
 - D. Whole bird rotisserie sales
 - E. Cornish

4.) Approximately how many lbs of butterflied were harvested from this flock?

$26,000 \text{ birds} * 5 \text{ houses} * 7.25 \text{ lbs/bird} = 942,500 \text{ lbs live weight}$

$942,500 * 23.3\% \text{ fillet yield} = 219,602.5 \text{ lbs fillets (E)}$

- A. 187,987 lbs
- B. 190,768 lbs
- C. 200,750 lbs
- D. 205,678 lbs
- E. 219,603 lbs

5.) If whole legs are valued at \$0.37/lb, what is the total value of leg quarters for this flock? (A)

$26,000 \text{ birds} * 5 \text{ houses} * 7.25 \text{ lbs/bird} = 942,500 \text{ lbs live weight}$

$942,500 \text{ lbs live weight} * 25.7\% \text{ leg yield} = 242,222.5 \text{ lbs legs}$

$242,222.5 \text{ lbs legs} * \$0.37/\text{lb} = 89,622.3$

- A. \$89,622.3
- B. \$89,654.9
- C. \$90,768.7
- D. \$92,879.8
- E. \$92,768.9

6.) The Pectoralis minor, or chicken tender, is responsible for what muscle movement in the chicken? (Page C-17 – wing elevation)

- A. Shaking the skin when cold – shivering
- B. Wing depression
- C. Posture of the bird
- D. Wing elevation
- E. The purpose of this muscle is unknown

To answer questions 7 through 15 use the PowerPoint handout and scenario provided below.

Scenario 2:

Further processed (FP) products, or value-added products, have been critical for the success of the poultry industry. By using specialized processing the industry has been able to effectively meet customer demands, grow market share, and increase profitability. Research and development facilities design new products for food companies, many of these products are further processed. At the Tyson Foods Discovery Center, small batches of products can be made for consumer research using the same equipment as a large commercial production facility. The fillets in the presentation were proportioned on a water jet portioner called a DSI. For the test, 212.5 lbs of breast fillet prime portions were needed/used and 450 lbs of unportioned breast fillets (green weight/raw material) were brought in to portion. The total batch (meat + marinade) for the product in the video was 250 lbs. FP poultry products are marinated, often using a vacuum tumbler to speed marination uptake, for the product in the slides, marination was 15% of the batch weight. One of the goals of marination is to flavor the product, often times using salt and/or other seasoning mixed in solution with water. In this product,

seasoning was 20% of the marination. Following marination, in the presentation, the fillets were breaded, frozen, and then packaged. Breading pickup is critical during processing because it effects product labeling. In the presentation, the fillet evaluated for breading pickup had a marinated weight of 217 g and the breaded weight is 304 g. After par-fry fillets are then frozen, for small production runs like those used in Research and Development products are typically frozen on trays in CO₂ cabinets. In commercial production, large spiral freezers are used for freezing products. After fillets are frozen, they are bagged in 5 pound bags and 6 bags are placed into each case. At the commercial production facility, the cases of this product would then be stacked in 6 x 7 TIH pallet resulting in 42 cases on a pallet. The pallets are then loaded on a truck for transportation to the distribution center. Maximum pallet number on a truck is 20 pallets. Maximizing trailer loads is critical for production efficiency, hauling partial trailer loads is costly and inefficient.

7.) Which of the following is NOT a method commonly used for portioning breast fillets. (page C-111)

- A. Hand trimming
- B. Water jet portioning
- C. Band saw blades
- D. Infrared lasers
- E. None of the above

8.) What was the prime % for the product in the PowerPoint slide?

212.5 fillet portions for test / 450 lb raw material *100 = 47.2% (B)

- A. 50%
- B. 47.2%
- C. 52.3%
- D. 35.8%
- E. 55.2%

9.) Which of the following is the definition of RTC? (C-114)

- A. Ready to create
- B. Ready to cook
- C. Roasted to completion
- D. Ready to eat
- E. Reached the correct temperature

10.) Of the marination solution, how much, in pounds, was seasoning?

250 lb total batch * 15% = 37.5 lbs marinade

37.5 lb marinade * 20% seasoning in marinade = 7.5 lbs seasoning

- A. 2.0 lbs.
- B. 4.5 lbs
- C. 6.0 lbs
- D. 7.5 lbs
- E. 10.5 lbs

11.) What is the breading pickup on the product in the scenario? (D)

$(304 \text{ g breaded weight} - 217 \text{ marinated fillet weight}) / 304 \text{ g breaded weight} * 100 = 28.6\%$ (D)

- A. 40.1%
- B. 37.5%
- C. 30.2%
- D. 28.6%
- E. Not enough information provided

12.) Which of the following would be the appropriate label declaration for the finished product in the scenario?

- A. Uncooked breaded chicken breast fillets
- B. Uncooked breaded chicken breast fillet fritters
- C. Fully cooked breaded chicken breast fillets
- D. Fully cooked breaded chicken breast fillet fritters
- E. All of the above are appropriate label declarations

13.) What is the total pick up for the fillet over green weight?

$250 \text{ lbs marinated portions} * 28.6\% \text{ breading pickup} = 321.5 \text{ lbs breaded fillets}$

$321.5 / 450 \text{ lbs green weight} - \text{unportioned raw material} = 71.4\% \text{ yield}$ (E)

- A. 125.2% yield
- B. 105.9% yield
- C. 98.3% yield
- D. 80.9% yield
- E. 71.4% yield

14.) What is the pallet weight for the product in the scenario?

$5 \text{ lb bags} * 6 \text{ bags per box} = 30 \text{ lb case}$

$30 \text{ lb case} * 42 \text{ cases per pallet} = 1260 \text{ lb pallet}$ (D)

- A. 1,060 lb
- B. 1,250 lb
- C. 1,339 lb
- D. 1,260 lb
- E. 1,057 lb

15.) If maximum trailer weight is 36,000 lbs, will this trailer be maximizing trailer load weight for production efficiency ?

- A. Yes
- B. No