



UNIVERSITY OF AGRICULTURE, ABEOKUTA  
DEPARTMENT OF ANIMAL PRODUCTION AND HEALTH  
2009/2010 FIRST SEMESTER EXAMINATION

Name of subject: APH505  
Full title of paper: Animal Products and By-products  
Time allowed: 3 hours  
Instruction: Answer **All** questions

- (a) Draw a well labelled diagram of an egg and explain the function(s) of each part. (9 Marks)

(b) Enumerate the proteins available in the albumen (5 Marks)

(c) Explain the effects of the following factors on egg quality

(i) Age of the hen (ii) Nutrition (iii) Disease (2 Marks each)
- (a) Explain the physiochemical changes involved in the conversion of muscles to meat.

(b) Mention eight (8) stressors that could result in the depletion of glycogen in farm animals before slaughtering.
- (a) With the aid of a flow chart only, describe the process involved in the production of lactose, whey protein concentrate and whey protein isolate. (5 Marks)

(b) Milk from cows being treated with antibiotics is often withheld from milk supply for processing, why? (6 marks)

(c) State the end products of the following processes:

(i) Raw milk  $\xrightarrow[\text{Clarification}]{\text{separation}}$  \_\_\_\_\_ and \_\_\_\_\_ (2 marks)

(ii) Raw milk  $\xrightarrow{\text{precipitation (after separation)}}$  \_\_\_\_\_ (1 Mark)

(iii) Cream  $\xrightarrow{\text{Churning}}$  \_\_\_\_\_ (1 Mark)

(d) Write short notes on the following

(i) Sour cream (ii) Beverage milk (2½ Marks each)
- (a) List and describe the various metabolic and biological phenomenon within the animal carcass on which meat qualities depends (7 marks)

(b) Discuss three methods of meat preservation (7 Marks)

(c) Describe the six categories of heat-treated preserves (6 Marks)
- (a) Describe two (2) main factors that will affect the yield of animal by-products.

(b) Discuss fully the economic importance of three animal by-products to the meat processing factory



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Full title of paper: Animal Products and By-Products  
Time allowed: 2½ Hours  
Instruction: Answer four (4) questions in all.

1. a.) Briefly explain five (5) factors to be considered when meat is to be used for sausage production.  
(2½ Marks).

b.) Prepare a 2,000g chicken sausage giving the following ingredients in percentage;

<u>Ingredients</u>	<u>Percentage</u>	
Chicken meat	52	
Gillets	13	
Wheat flour	20	
Ascorbic Acid	0.05	
Seasoning	1.85	
Water	13.10	(8 marks)

c.) Explain the following in terms of Post –Mortem changes in meat:

- i.) Circulatory failure to the muscle
  - ii.) pH decline
  - iii.) Enzymatic degradation
- (7 marks)

2. Write short notes on the following;

- a.) The significance of egg qualities to the poultry industry. (12½ marks)
- b.) Egg formation. (5marks)

3. a.) Explain the economic importance of four (4) animal by- products to the pharmaceutical industry.  
b.) Identify four main factors that will affect the quality of hides and skins.

4. a.) Discuss the significance of milk processing to human health  
b.) What are the conditions of raw milk that will ensure the development of a yogurt culture.  
c.) With the aid of a flow diagram **ONLY** describe the stages involved in milk secretion and production

5. a.) Briefly discuss the subdivisions of milk products.  
b.) What do you understand by the following terms?

- i.) Whey
- ii) Starter culture
- iii) Butter
- iv) Cream
- v) Skimmed milk