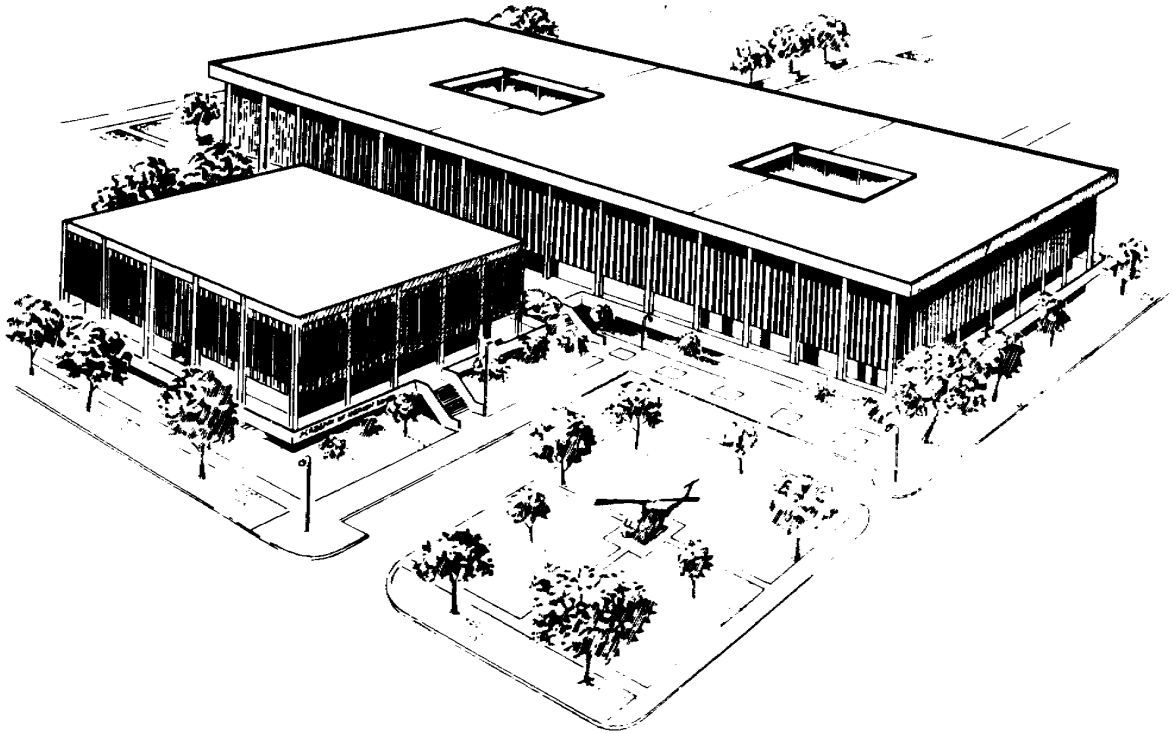

**U.S. ARMY MEDICAL DEPARTMENT CENTER AND SCHOOL
FORT SAM HOUSTON, TEXAS 78234-6100**



POULTRY II

SUBCOURSE MD0728 EDITION 100

DEVELOPMENT

This subcourse is approved for resident and correspondence course instruction. It reflects the current thought of the Academy of Health Sciences and conforms to printed Department of the Army doctrine as closely as currently possible. Development and progress render such doctrine continuously subject to change.

ADMINISTRATION

Students who desire credit hours for this correspondence subcourse must enroll in the subcourse. Application for enrollment should be made at the Internet website: <http://www.atrrs.army.mil>. You can access the course catalog in the upper right corner. Enter School Code 555 for medical correspondence courses. Copy down the course number and title. To apply for enrollment, return to the main ATRRS screen and scroll down the right side for ATRRS Channels. Click on SELF DEVELOPMENT to open the application; then follow the on-screen instructions.

For comments or questions regarding enrollment, student records, or examination shipments, contact the Nonresident Instruction Branch at DSN 471-5877, commercial (210) 221-5877, toll-free 1-800-344-2380; fax: 210-221-4012 or DSN 471-4012, e-mail accp@amedd.army.mil, or write to:

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CLARIFICATION OF TERMINOLOGY

When used in this publication, words such as "he," "him," "his," and "men" are intended to include both the masculine and feminine genders, unless specifically stated otherwise or when obvious in context.

USE OF PROPRIETARY NAMES

The initial letters of the names of some products may be capitalized in this subcourse. Such names are proprietary names, that is, brand names or trademarks. Proprietary names have been used in this subcourse only to make it a more effective learning aid. The use of any name, proprietary or otherwise, should not be interpreted as endorsement, deprecation, or criticism of a product; nor should such use be considered to interpret the validity of proprietary rights in a name, whether it is registered or not.

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**CORRESPONDENCE COURSE OF
THE U.S. ARMY MEDICAL DEPARTMENT CENTER AND SCHOOL**

SUBCOURSE MD0728

POULTRY II

INTRODUCTION

This subcourse is a continuation of the advanced correspondence course for the Veterinary Food Inspection Specialist. Subcourse MD0728 reviews the information in the basic level subcourse MD0712, Poultry I, and provides additional information. You may want to review material in MD0712 prior to starting this subcourse. Upon completion of this subcourse, you should have gained the knowledge needed to verify grades of poultry, a task necessary for determining the identity of poultry. Additional information in this lesson, although related to verifying grade, will also be helpful in the surveillance inspection of poultry products and also assist you in training others.

Subcourse Components:

The subcourse instructional material consists of seven lessons as follows:

Lesson 1, Introduction to Poultry.

Lesson 2, Classes, Condition, and Quality of Poultry.

Lesson 3, Verifying Grades of Poultry.

Here are some suggestions that may be helpful to you in completing this subcourse:

--Read and study each lesson carefully.

--Complete the subcourse lesson by lesson. After completing each lesson, work the exercises at the end of the lesson, marking your answers in this booklet.

--After completing each set of lesson exercises, compare your answers with those on the solution sheet that follows the exercises. If you have answered an exercise incorrectly, check the reference cited after the answer on the solution sheet to determine why your response was not the correct one.

Credit Awarded:

Upon successful completion of the examination for this subcourse, you will be awarded 10 credit hours.

To receive credit hours, you must be officially enrolled and complete an examination furnished by the Nonresident Instruction Branch at Fort Sam Houston, Texas.

You can enroll by going to the web site <http://atrrs.army.mil> and enrolling under "Self Development" (School Code 555).

A listing of correspondence courses and subcourses available through the Nonresident Instruction Section is found in Chapter 4 of DA Pamphlet 350-59, Army Correspondence Course Program Catalog. The DA PAM is available at the following website: <http://www.usapa.army.mil/pdffiles/p350-59.pdf>.

LESSON ASSIGNMENT

LESSON 1

Introduction to Poultry.

TEXT ASSIGNMENT

Paragraphs 1-1 through 1-18.

LESSON OBJECTIVES

After completing this lesson, you should be able to:

- 1-1. Identify the primary references used in the inspection of poultry.
- 1-2. Identify terms used in the inspection of poultry.
- 1-3. Identify the differences between the United States Department of Agriculture (USDA) grading service and inspection service.
- 1-4. Identify the different official identification marks used on ready-to-cook poultry.

SUGGESTION

After completing the assignment, complete the exercises at the end of this lesson. These exercises will help you to achieve the lesson objectives.

LESSON 1

INTRODUCTION TO POULTRY

Section I. POULTRY INSPECTION

1-1. GENERAL

In Subcourse MD0712 (Poultry I), poultry processing as well as destination and surveillance inspections of poultry were discussed. The inspection at destination was performed in order to determine identity, condition, and quantity of poultry. When inspecting for identity of poultry, it is necessary to verify the grade. Whether you receive a Certificate of Conformance (COC) for contracts covering quantities of 2,500 pounds or less or a United States Department of Agriculture (USDA) Grade Certificate for contracts of more than 2,500 pounds (see figures 1-1 and 1-2), the veterinary food inspection specialist must be familiar with all aspects involved in the grading of poultry in order to verify the grade.

CERTIFICATE OF CONFORMANCE	
Name and address of contractor:	
Lot No.:	
Name of item:	
Contract No.:	
Quantity in lot:	
Specification No.:	
Certification:	I certify that the supplies identified above have been examined and tested in accordance with contract requirements and that the supplies as presented for acceptance conform to the applicable contract requirements.
Signature	_____
Date	_____

Figure 1-1. Example of a Certificate of Conformation.

U.S. DEPARTMENT OF AGRICULTURE AGRICULTURAL MARKETING SERVICE POULTRY DIVISION POULTRY PRODUCTS GRADING CERTIFICATE		This certificate is receivable in all courts of the United States as prima facie evidence of the truth of the statements therein contained. This certificate does not excuse failure to comply with any of the regulatory laws enforced by the United States Department of Agriculture.									
AUTHORIZATION NO.		The conduct of all services and the licensing of inspecting, grading, and sampling personnel under the regulations governing such services shall be accomplished without discrimination as to race, color, religion, sex, or national origin.									
TO APPLICANT (Name and address, include ZIP Code) Poultry Pursuers, Inc. Box 765 Pelahatchie, Ms. 39145		NAME AND ADDRESS OF SHIPPER OR SELLER ¹ J. McMaster Co. 1235 W. Graham St. Chicago, IL 60657	NAME AND ADDRESS OF RECEIVER OR BUYER ¹ Accountable Officer DPSC Scobey Cold Storage San Antonio, Tx. 78219								
PLACE ISSUED Jackson, Ms.		PLACE EXAMINED Pelahatchie, Ms. PL240	PRODUCT GRADED (Check) <input checked="" type="checkbox"/> POULTRY <input type="checkbox"/> EGG PRODUCTS								
CERTIFICATE NO. DLA 13H 94 C N766 PPA- 1452252		TOTAL NO. OF CONTAINERS 665	TOTAL MARKED WEIGHT 39,014								
LOT NO.	NUMBER PACKAGES PER LOT ¹	NUMBER PACKAGES EXAMINED	PRODUCT TYPE AND CLASS	MARKED WEIGHT OF LOT ¹	TEST <input type="checkbox"/> SHORTAGE <input type="checkbox"/> OVERAGE	TOTAL NET	OFFICIAL U.S. GRADE				
5	665	15	Frozen Ready to Cook Quartered Frying Chicken W/O Necks & Giblets Type 11, Class 1, Style 3 3-3 $\frac{1}{2}$ lbs.	39,014	None	39,014	A				
LOT NO.	TYPE AND CONDITION OF CONTAINERS		WAREHOUSE NO./CAR NO.	WHERE HELD AND TEMPERATURE	CONTAINERS WERE STAMPED WITH						
5	New Corrugated Fiber Master container waxed inner cartons		---	Freezer-10°F	<input checked="" type="checkbox"/> SAMPLE <input checked="" type="checkbox"/> ALL <input type="checkbox"/> SAMPLE <input type="checkbox"/> ALL US Military Provisional Cert. No. 1452252						
REMARKS Packaging tare weights: Primary containers (4) 1.69 lbs. Supplies listed hereon conform to all quality requirements of the contract. Visual examination indicates conformance to packing, unitization, labeling and marking requirements of the contract and contractor furnished certificate of conformance is on file.											
SHELL EGGS											
LOT NO.	TOTAL CASES	CASES EXAMINED	NET WEIGHT ²	PERCENTAGES				SMALL END UP ²	UNDER WEIGHT ²	SHORTAGE ²	OFFICIAL GRADE AND SIZE
				AA	A	B	B ⁺	DIRTIES	CHECKS	LOSS	
 LOT NO. EGGS CASE PACKAGING CASE QUALITY RANGE CASE TEMP RANGE CHARACTER OF LOSS 											
WHERE HELD AND TEMPERATURE				<input type="checkbox"/> SAMPLE <input type="checkbox"/> ALL		CASES WERE STAMPED WITH					
REMARKS In compliance with the Regulations of the Secretary of Agriculture Governing the Grading and Inspection of Poultry, Eggs, and Egg Products issued pursuant to the Agricultural Marketing Act of 1946, as amended, and any other Act of Congress conferring like authority, it is certified that the products listed hereon were examined and that the class, quality, quantity and/or condition of the products at the time and on the date shown were as stated above.								OFFICIAL GRADER <i>Joel A Puckett</i> Joel A Puckett		DATE 7/11/94	
SUBCENTER NUMBER		UNITS	RATE CODE	AMOUNT							
				DOLLARS		CENTS					
		EXPENSE	Z 7								
		TOTAL				R A					
1/ As stated by applicant or contractor 2/ Weights based on 30 dozen equivalent 3/ Eggs reported as undersized and small end up are also reported under other headings according to their quality. 4/ Percent reported as shortage was replaced to determine grade.											

Figure 1-2. Example of a USDA Grade Certificate.

1-2. POULTRY GRADING MANUAL

The primary reference for the grading of poultry is the Code of Federal Regulations (CFR) Title 7. The USDA, Agricultural Marketing Service, has prepared the Poultry Grading Manual as a guide for the uniform application of the United States (US) classes, standards, and grades of poultry as found in the CFR. For veterinary food inspection specialists to understand the proper grade verification process, it is essential for them to have knowledge of the structure of the bird and to know the different classes of poultry and the terminology used to designate these classes. The information in the Poultry Grading Manual is designed to help attain these objectives. In fact, much of the information presented in this subcourse is derived from this manual.

1-3. DRESSED POULTRY

The term "dressed poultry" refers to poultry slaughtered for use as human food, with the head, feet, and viscera intact and from which the blood and feathers have been removed. Even though the US Standards of Quality apply to dressed poultry and the USDA poultry grading regulations provide for the grading of dressed poultry, this product is practically nonexistent on today's market. When dressed poultry is quality graded, the individual carcasses of dressed poultry may not be officially identified with the grade mark. The military services do not procure dressed poultry.

1-4. READY-TO-COOK POULTRY

a. **Definition.** The term "ready-to-cook (RTC), means any dressed poultry from which the protruding pinfeathers, vestigial feathers (hair or down as the case may be), head, shanks, crop, oil gland, trachea, esophagus, entrails, and lungs have been removed, and which is with or without giblets and ready to cook without further processing. Ready-to-cook poultry also means any edible part or any cut-up or disjointed portion of such poultry.

b. **Uses of Ready-to Cook Carcasses and Parts.** Ready-to-cook poultry carcasses and parts, as well as certain poultry products, may be graded for quality according to official standards and grades. Lessons 2 and 3 will provide detailed information about classes, standards, and grades. Ready-to-cook poultry may be certified as meeting the special requirements of a buyer's purchase contract or specification. Certificates or other documents may also be issued relative to the product graded.

c. **List of Conditions That Prevent Grading.** The great majority of ready-to-cook birds are graded in processing plants following evisceration. Ready-to-cook poultry must be inspected for wholesomeness in accordance with the regulations of the USDA before it can be officially graded. Ready-to-cook birds showing any of the conditions listed below cannot be graded. Such birds would be sent back for further processing if grading is done at the processing plant. When grading is performed elsewhere, the number of birds is recorded, and the lot would be ineligible for grading. The specific conditions that prevent grading are:

- (1) Protruding pinfeathers.
- (2) Bruises requiring trimming.
- (3) Lungs or sex organs incompletely removed.
- (4) Parts of the trachea remaining.
- (5) Any feathers present.
- (6) Extraneous material of any type inside or outside of the carcass (for example: fecal material, blood, gall stains, grease, dirt, metal, or wood).

1-5. STANDARDS AND GRADES

a. **Standards of Quality.** The difference between standards of quality and grades is sometimes misunderstood. Standards of quality enumerate all the factors that determine the grade. These factors, such as fat covering, fleshing, exposed flesh, discolorations, etc., are evaluated to determine the grade of the bird.

b. **Grades.** Grades apply to lots of poultry of the same kind and class, each of which conforms to the requirements for the grade standard.

c. **Consumer Grades.** The US Consumer Grades for Poultry are Grades A, B, and C. These are the most important since they are used at the retail level.

d. **Procurement Grades.** The US Procurement Grades I and II are primarily for institutional use. In contrast to US Consumer Grades, procurement grades place more emphasis on meat yield than on appearance.

1-6. USES OF STANDARDS AND GRADES

a. **General.** The US Standards of Quality and Grades are for the use of anyone interested in poultry marketing. Standards and grades are used extensively throughout the marketing system. They are used for several purposes.

b. **For Business Transactions.** Grade standards furnish an acceptable common language that buyers and sellers use in trading and that market news reporters use when communicating about market prices and supplies.

c. **Cost Factor Decisions.** Poultry firms that base the price paid to the grower on grade yields will grade the product to USDA standards.

d. **Resident Grading Service.** Many processors request full-time resident grading service from USDA so that they may use the official grade on each bird or package.

e. **Specifying Grades in Food Contracts.** The Department of Defense (DoD), state, county, Federal, and city institutions, airlines, grocery stores, fast-food restaurants, hospitals, schools, and other large-scale food buyers use the grading service by specifying USDA graded poultry products in their food (purchasing) contracts.

f. **Varied Financial Purposes.** Anyone with a financial interest in a lot of processed poultry may apply to USDA to have an official grade designation placed on the lot. The grades may be used as the basis for negotiating loans, settling disputes involving quality, or paying damage claims.

g. **Various Commercial Purposes.** Commercial firms often use the US Standards of Quality and Grades as a basis for specifications for their own products, for advertising, and for establishing brand names.

Section II. GRADING AND INSPECTION PROGRAMS

1-7. GENERAL

a. **Definition of Inspection.** All poultry that is graded must first be inspected. Inspection refers to the wholesomeness of poultry and its fitness for use as food. Inspection is not concerned with quality or grade.

b. **Definition of Grading.** Grading, in general, involves sorting products according to quality and size, but it also includes determining the class and condition of products. For poultry, grading is the classifying and sorting of poultry and poultry products according to various groups of conditions and quality characteristics.

1-8. INSPECTION PROGRAM

a. **Historical Background.** Under the Poultry Products Inspection Act of 1957, USDA provides mandatory Federal inspection of poultry and poultry products shipped interstate or for foreign commerce. The wholesome Poultry Products Act of 1968 amended the 1957 law to strengthen it and to open the way for vastly improved state poultry inspection systems.

b. **The Act of 1968.** All poultry slaughtered for use as human food and destined for sale in commerce must be processed and handled in accordance with the 1968 Act and its regulations. Mandatory Federal inspection service, except for overtime and holiday work, is paid for by the government.

c. **State Inspection Systems.** States with inspection systems equal to the Federal program conduct inspection in plants shipping within that state only (intrastate). In states without such programs, intrastate plants are also under mandatory Federal inspection.

1-9. INSPECTION SERVICES

a. **Voluntary Inspection Service.** A voluntary inspection service is provided under authority of the Agricultural Marketing Act of 1946 for squab and game birds. The cost is paid by the applicant. The requirements for the voluntary program are the same as those for the mandatory program.

b. **The Inspection Mark.** The inspection mark on poultry or poultry products means that they have been examined by a qualified USDA veterinarian (or by a qualified inspector under the supervision of a veterinarian) during slaughter and/or processing. All slaughter plants are supervised by a USDA veterinarian.

c. **Inspection and the Listing of Official Establishments.** Plants which apply for inspection service and are accepted are known as official establishments or approved plants. These official establishments are listed in the USDA publication entitled "List of Plants Operating under USDA Poultry and Egg Grading and Egg Products Inspection Programs."

d. **Assigned Responsibility.** Administration of both mandatory and voluntary Federal inspection is the responsibility of the Food Safety and Quality Service (FSQS) under the USDA.

1-10. POULTRY GRADING PROGRAM

a. **Nationwide Marketing.** Grading services aid in the nationwide marketing of poultry and poultry products. They change from time to time as the types of products available change. Today, less than 25 percent of all chickens and less than 20 percent of all turkeys are marketed as whole bird. The rest reach the market in value-added forms, such as cut-up parts, boneless and/or skinless cuts, and further processed products. These products include a growing variety of freshly prepared ready-to-cook, as well as pre-cooked, refrigerated poultry entrees. This array of poultry and poultry products can usually be found year-round in the fresh and frozen meat sections of the food store.

b. **Historical Background.** The development of grade standards and the identification and certification of class, quality, quantity, and condition of agricultural products is authorized by the Agricultural Marketing Act of 1946 (AMA). Regulations to implement the AMA were developed in cooperation with state agriculture officials, producers, processors, and consumers.

c. **Penalties.** The regulations provide penalties for the misuse of grading, such as the false representation that poultry has been officially graded. Products labeled with the terms "prime," "choice," and "select," which indicate superior or top quality, must be equivalent to US Grade A.

d. **Strict Limitations.** The letters "US" or "USDA" may only be used with a poultry grademark if the poultry has been graded by an authorized grader. The letter grades A, B, or C may only be used without the grademark if the product has been graded by a USDA grader and meets the requirements of the appropriate letter grade. The words "Prepared From" or similar wording may only be used with the US grademark if the product was produced from graded poultry.

1-11. POULTRY GRADING SERVICES

a. **Voluntary Grading Services.** The use of poultry grading services of USDA is voluntary and may be requested by individuals, firms, or government agencies. Of course, anyone using grading services must pay for them. Those who do apply for service must also provide the space, equipment, lighting, or other facilities that are needed by the grader or are required by the regulations. In addition, when grading is performed in a plant, the plant and its facilities must be approved by USDA. Plants approved for inspection services are automatically approved for grading services if facilities are adequate for grading work.

b. **List of Services Available.** The programs and services available are:

- (1) Grading of ready-to-cook poultry and poultry products, including parts.
- (2) Grading of poultry food products in official or approved plants.
- (3) Grading according to contract or applicant's specification.
- (4) Producer grading.
- (5) Weight tests, and so forth.

c. **Resident Poultry Grading.** Resident or continuous grading is usually performed by a grader assigned to a specific processing plant on a full-time or a part-time basis. Resident graders are available at all times. If more than one grader is assigned to a plant, one of them will be designated as the grader-in-charge.

(1) Location of graders. Most resident grading is performed in processing plants. Grading is also performed at shipping points in the more concentrated production areas. Major distribution centers or destination points (terminal markets) also use resident grading services.

(2) Authorized personnel. In plants processing a large volume of poultry, the resident grader is assisted by plant employees authorized to grade. These authorized personnel, under the supervision of the resident grader, sort the poultry according to quality. Final grading and certification is made by the resident grader.

(3) Cost. Resident grading costs include an amount equal to the salary of the grader and a charge based on the volume of products handled in the plant. The charge is made to cover supervisory and administrative costs.

(4) Temporary plant basis. Most poultry grading services provided to resident plants are available on an as-needed basis. Temporary plant fees are based on the time needed to do the work.

d. **Fee Grading.** The grading is performed when an applicant requests grading of a particular lot or carload of poultry. Requests for this type of service are usually made on an irregular basis, and the charges are based on the time needed to perform the service. Most fee grading is done at locations other than processing plants, such as distribution facilities or destination points. Some shippers and processors also use this type of service to fulfill purchase contract specification. Most poultry graded in this way is graded on a representative sample basis.

1-12. DUTIES OF A POULTRY GRADER

The USDA licensed graders are thoroughly instructed in their duties. The major responsibilities of a poultry grader follow.

a. **Grading Product.** A poultry grader grades a product for class, quality, quantity, and/or condition.

b. **Condition Inspecting.** A poultry grader makes condition inspections of poultry containers and transportation vehicles.

c. **Weight Testing.** A grader makes weight tests when requested.

d. **Supervising.** A grader supervises the grading procedures of all authorized personnel under the grader's jurisdiction.

e. **Observing Packing of Product.** A grader observes the packing and marking of a product to be officially identified.

f. **Issuing Required Documents.** A grader issues grading certificates or other documents required by the military, other government agencies, or institutional buyers.

1-13. ADMINISTRATION OF PROGRAM

a. **The Agricultural Marketing Service.** The voluntary poultry grading program is administered by the Poultry Division of USDA's Agricultural Marketing Service. The Division's national office oversees regional and state offices that supervise graders stationed across the country.

b. **Duties of the Supervisory Staff.** The primary duties of the supervisory staff are to:

- (1) Maintain uniformity of application of the services in the field.
- (2) Assure compliance with the regulations governing these services.
- (3) See that all grade standards are properly interpreted and applied.

1-14. COOPERATIVE AGREEMENTS FOR PAYMENT OF FEES

Cooperative agreements between USDA and various state agencies set forth procedures for the collection and disbursement of fees. Under a State Trust Fund agreement, arrangements for service are between the state and the individual firms, with the concurrence of USDA. Fees are collected by the state. The USDA is reimbursed by the state for Federal supervision of the program. Under a Federal Trust Fund agreement, applications for service are between USDA and the individual firms. Fees are collected by USDA. The state is paid by USDA for the costs it incurs performing grading work and supervision.

Section III. OFFICIAL IDENTIFICATION MARKS FOR READY-TO-COOK POULTRY

1-15. GENERAL

The US Consumer grades apply only to poultry or poultry products taken from an individual carcass or carcass part that has been graded by a grader or by authorized personnel working under the supervision of a grader. The US procurement grades are generally applied when the poultry has been graded on the basis of an examination of a prescribed sample of the lot.

1-16. OFFICIAL INSPECTION MARK

The official circular inspection mark is required on consumer (immediate) containers and shipping containers of ready-to-cook poultry inspected under the Poultry Products Inspection Act. See figure 1-3.



Figure 1-3. Example of an official USDA inspection mark.

1-17. OFFICIAL GRADEMARKS ON CONSUMER CONTAINERS

a. **UNITED STATES DEPARTMENT OF AGRICULTURE Grademark.** The grademark must either be printed with light-colored letters on a dark field or dark-colored letters on a light field. See figure 1-4.

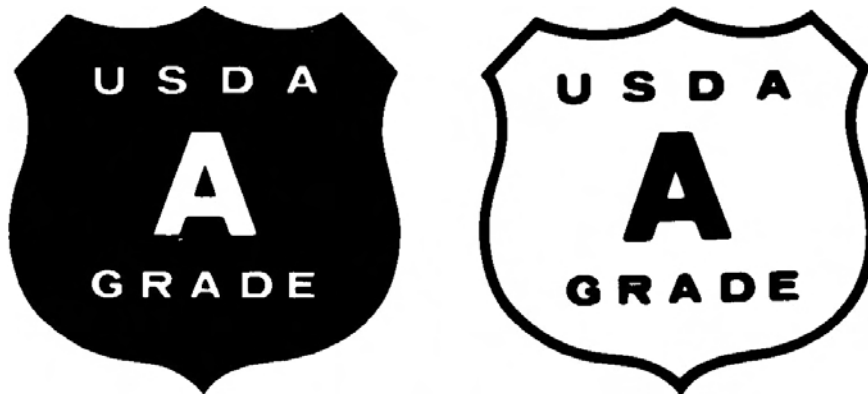


Figure 1-4. Examples of USDA grademarks.

b. **Identification Required on Labels or Wing Tags.** Any wing tag, metal clip, insert label, or other label which bears either the inspection mark or the grademark or both must also show either the plant number or the name and address of the firm. Figure 1-5 shows examples of satisfactory labels or tags.



Figure 1-5. Examples of USDA wing tags.

NOTE: Labels bearing official identification may not be printed until the printer's proof or a photostatic copy has been found acceptable by USDA's Agricultural Marketing Service.

c. **Guidelines for Wing Tags.** When the inspection mark and the grademark are both shown on a wing tag, they must appear on the same side of the tag or they may appear on both sides of the tag. When wing tags are of shield design, they may be used to show both marks or the grademark only, but they may not be used to show the inspection mark only. Note that wing tags bearing the grademark must always show the class of the product.

d. **Class Groupings for Grademarks.** The class designation for the product can be the appropriate individual class name (see Lesson 2) or classes can be grouped according to Table 1-1.

NAME	POULTRY TO BE PACKED THEREUNDER
Young Poultry	Young birds of any kind
Mature Poultry	Mature or old birds of any kind
Young Chicken	Roasters and other young chickens
Stewing Chicken	Fowl, baking hens, chicken hens
Young Turkey	Young hens, young toms, and fryer-roaster turkeys
Yearling Turkey	Yearling hen turkeys, yearling tom turkeys
Duckling	Broiler ducklings, roaster ducklings
Mature Duck	Old ducks

Table 1-1. Official class groupings

1-18. OFFICIAL GRADEMARKS ON SHIPPING CONTAINERS

a. **Consumer Grade Designated.** The grademark is used on a shipping container to designate a consumer grade. See figure 1-6. Preprinted grademarks do not require a date. However, when a grademark is applied by stamping, the date the product was graded must be used in conjunction with the grademark.



Figure 1-6. Example of a USDA shipping container grademark.

b. **When a Grade Certificate Is Issued.** The sample graded stamp is used when grade certification is made in conjunction with other factors, such as test weighing and temperature certification. See figure 1-7. This stamp may only be used when a certificate is actually issued and must show the certificate number in the stamp.



Figure 1-7. Example of a Sample Graded stamp.

c. **When In Compliance With All Contract Requirements.** The contract compliance stamp is used when identifying product that has been produced according to approved specifications and is not to be applied until product is determined to be in compliance with all contract requirements. See figure 1-8. Either the certificate number or the date the product was certified may be used in the stamp, but the certificate number is preferred.



Figure 1-8. Example of a Contract Compliance stamp.

d. **When Purchased Under Military Orders For Subsistence.** The provisional stamp is used on poultry graded for military contracts for troop issue and/or resale when purchased under military "orders for subsistence." It is also to be used on Veterans Administration products when purchased on Defense Procurement Supply Center purchase contracts. See figure 1-9. The certificate number is in this stamp. It is to be applied at the time the product is determined to be in compliance with all contract requirements.



Figure 1-9. Example of a Provisional stamp.

Continue with Exercises

EXERCISES, LESSON 1

INSTRUCTIONS: The following exercises are to be answered by marking the lettered response that best answers the question or best completes the incomplete statement or by writing the answer in the space provided.

After you have completed all the exercises, turn to "Solutions to Exercises" at the end of the lesson and check your answers. For each incorrect answer, reread the material referenced after the solution.

1. What is the primary reference document for the grading of poultry?

2. In order for the veterinary food inspection specialist to gain knowledge of the structure of the bird and different classes of poultry, the reference of choice is the

3. Dressed poultry refers to poultry slaughtered for use as human food with the

4. Ready-to-cook poultry must be inspected for wholesomeness before it can be officially graded. The specific conditions that prevent grading are:

- a. Protruding _____
- b. Bruises requiring _____
- c. _____ or _____ incompletely removed.
- d. Parts of the _____ remaining.
- e. Any _____ at all.
- f. _____ material of any type _____ or _____ of the carcass.

5. The US Consumer Grades for poultry are:
 - a. _____.
 - b. _____.
 - c. _____.

6. The US Procurement Grades for poultry are:
 - a. _____.
 - b. _____.

7. The main difference between US Consumer Grades and US Procurement Grades is that procurement grades emphasize _____.

8. Inspection refers to the _____ of poultry and its _____ for use as food.

9. Grading is the classifying and sorting of poultry products according to various groups of _____ and _____ characteristics.

10. What document lists plants approved for the USDA Inspection Program?

11. Some states do not have inspection systems equal to the Federal program. In those states, is Federal inspection of poultry mandatory when plants are shipping within that state only?
 - a. Yes.
 - b. No.

12. Which is performed first?
- a. Grading.
 - b. Inspection.
13. Are Federal grading services mandatory when poultry and poultry products are shipped interstate or for foreign commerce?
- a. Yes.
 - b. No.
14. In plants processing a large volume of poultry, the _____ grader is assisted by _____ who are authorized to grade. Final grading and certification is made by the resident grader.
15. The voluntary poultry grading service of the USDA is administered by the _____ of USDA's _____
- _____
16. The supervisory staff of the USDA's Agricultural Marketing Service perform all of the following duties **EXCEPT**:
- a. Assuring compliance with regulations.
 - b. Seeing all grade standards are properly interpreted and applied.
 - c. Maintaining uniformity of application of inspection services in the field.
 - d. Issuing required documents.

17. The official inspection mark that is required on both consumer (immediate) containers and shipping containers of poultry under the Poultry Products Inspection Act is:
 - a. Rectangular in form.
 - b. In the form of a shield.
 - c. Circular in form.

18. When arrangements for poultry grading service are between the state and the individual firm, who collects the fees?
 - a. A Cooperative Trust Fund.
 - b. The state.
 - c. States Department of Agriculture.

19. Are US procurement grades generally applied to poultry based on an examination of a prescribed sample taken from a lot?
 - a. Yes.
 - b. No.

20. Wing tags, metal clips, or labels which bear the inspection mark must show the plant number or the _____.

21. The USDA grademark on consumer containers must be printed with:
 - a. Light-colored letters on a dark field.
 - b. Dark-colored letters on a light field.
 - c. Either "a" or "b" is acceptable.

22. Is it illegal for a business to print labels bearing official identification before the label has been found acceptable by Federal authorities?
- Yes.
 - No.
23. The date that the product was graded must be included in the shield-shaped USDA grademark on a shipping container when the grademark is:
- Preprinted.
 - Applied by stamping.
24. Which of the following stamps is used on a shipping container when grade certification is made in conjunction with test weighing and temperature certification?
- Provisional stamp.
 - Contract compliance stamp.
 - Sample graded stamp.
25. In which of the following stamps used on a shipping container may either the certificate number or the date the product was certified be used?
- Provisional stamp.
 - Contract compliance stamp.
 - Sample graded stamp.
 - States Department of Agriculture consumer grademark.
26. Which stamp is used on poultry graded for military contracts for troop issue and/or resale?
- Provisional stamp.
 - Contract compliance stamp.
 - Sample graded stamp.

Check Your Answers on Next Page

SOLUTIONS TO EXERCISES, LESSON 1

1. Code of Federal Regulations (CFR) Title 7 (para 1-2)
2. Poultry Grading Manual (para 1-2)
3. head, feet, and viscera intact and from which the blood and feathers have been removed (para 1-3)
4.
 - a. pinfeathers.
 - b. trimming.
 - c. Lungs; sex organs
 - d. trachea
 - e. feathers
 - f. Extraneous; inside; outside (para 1-4c)
5. Grade A
Grade B
Grade C (para 1-5c)
6. Procurement Grade I
Procurement Grade II (para 1-5d)
7. Meat yield more than appearance (para 1-5d)
8. Wholesomeness; fitness (para 1-7a)
9. Conditions; quality (para 1-7b)
10. "List of Plants Operating Under USDA Poultry and Egg Grading and Egg Products Inspection Program" (para 1-9c)
11. a (para 1-8c)
12. b (para 1-7a)
13. b (paras 1-11a and 1-8a)
14. Resident; plant employees (para 1-11c(2))
15. Poultry Division; Agricultural Marketing Service (para 1-13a)
16. d (para 1-13b)

17. c (para 1-16; figure 1-3)
18. b (para 1-14)
19. a (para 1-15)
20. Name and address of the firm (para 1-17b)
21. c (para 1-17a)
22. a (para 1-17b)
23. b (para 1-18a)
24. c (para 1-18b)
25. b (para 1-18c)
26. a (para 1-18d)

End of Lesson 1

LESSON ASSIGNMENT

LESSON 2

Classes, Condition, and Quality of Poultry.

TEXT ASSIGNMENT

Paragraphs 2-1 through 2-11.

LESSON OBJECTIVES

After completing this lesson, you should be able to:

- 2-1. Identify terms used in determining class, condition, and quality of poultry.
- 2-2. Identify the different classes for the various kinds of poultry.
- 2-3. Identify the indicators for determining class.
- 2-4. Identify the factors involved in determining condition.
- 2-5. Identify the factors involved in determining the quality rating of poultry.

SUGGESTION

After studying the assignment, complete the exercises at the end of this lesson. These exercises will help you to achieve the lesson objectives.

LESSON 2

CLASSES, CONDITION, AND QUALITY OF POULTRY

Section I. DETERMINING CLASS

2-1. GENERAL

- a. **Kind.** "Kind" refers to the different species of poultry, such as chickens, turkeys, ducks, geese, guineas, and pigeons.
- b. **Classes.** The kinds of poultry are divided into classes. Members of the same class (such as fryers or hens) have essentially the same physical characteristics.
- c. **Physical Characteristics of a Class.** Physical characteristics of a class are associated with age, weight, and sex. The class, if questionable, can best be determined when the bird is prepared into ready-to-cook form by complete examination of its physical characteristics.
- d. **Description of Each Class.** Section I of this lesson will describe each class of the various kinds of poultry and then discuss the indicators used in determining class.

2-2. CLASSES OF CHICKENS

- a. **Class 1--Broilers or Fryers.** A broiler or fryer is a young chicken (usually under 9 weeks of age), of either sex, that is tender-meated with soft, pliable, smooth-textured skin, and flexible breastbone cartilage.
- b. **Class 2--Roaster.** A roaster or roasting chicken is a young chicken (usually 3 to 5 months of age), of either sex, that is tender-meated with soft, pliable, smooth-textured skin and breastbone cartilage that may be somewhat less flexible than that of a broiler or fryer.
- c. **Class 3--Capon.** A capon is a surgically unsexed male chicken (usually under 8 months of age) that is tender-meated with soft, pliable, and smooth-textured skin.
- d. **Class 4---Fowl or Hen.** A hen, fowl, or baking or stewing chicken is a mature female chicken (usually more than 10 months of age) with meat less tender than that of roaster or roasting chickens and a nonflexible breastbone tip. It is usually used for stew.

e. **Class 5--Rock Cornish Game Hen or Cornish Game Hen.** A Rock Cornish game hen or Cornish game hen is a young immature chicken (usually 5-6 weeks of age) weighing not more than 2 pounds at ready-to-cook weight. It is the progeny of a Cornish game chicken or of a Cornish chicken crossed with another breed of chicken.

2-3. CLASSES OF TURKEYS

a. **Fryer-Roaster Turkey.** A fryer-roaster turkey is a young immature turkey (usually under 16 weeks of age), of either sex, that is tender-meated with soft, pliable, smooth-textured skin, and flexible breastbone cartilage.

b. **Young Turkey.** A young turkey is a turkey (usually under 8 months of age) that is tender-meated with soft, pliable, smooth-textured skin and breastbone cartilage that is somewhat less flexible than that of a fryer-roaster turkey. Sex designation is optional.

c. **Yearling Turkey.** A yearling turkey is a fully matured turkey (usually under 15 months of age) that is reasonably tender-meated and has reasonably smooth-textured skin. Sex designation is optional.

d. **Mature Turkey and Old Turkey.** A mature or old turkey is an old turkey of either sex (usually in excess of 15 months of age) with coarse skin and toughened flesh.

2-4. CLASSES OF DUCKS

a. **Broiler Ducklings or Fryer Duckling.** A broiler duckling or fryer duckling is a young duck (usually under 8 weeks of age), of either sex, that is tender-meated and has a soft bill and a soft windpipe.

b. **Roaster Duckling.** A roaster duckling is a young duck (usually under 16 weeks of age), of either sex, that is tender-meated and has a bill that is not completely hardened and a windpipe that is easily dented.

c. **Mature Duck or Old Duck.** A mature duck or old duck is a duck (usually over 6 months of age), of either sex, with toughened flesh, a hardened bill, and a hardened windpipe.

2-5. CLASSES OF GEESE

a. **Young Goose.** A young goose may be of either sex, is tender-meated, and has a windpipe that is easily dented.

b. **Mature Goose or Old Goose.** A mature goose or old goose may be of either sex and has toughened flesh and a hardened windpipe.

2-6. CLASSES OF GUINEAS

a. **Young Guinea.** A young guinea may be of either sex, is tender-meated, and has flexible breastbone cartilage.

b. **Mature Guinea or Old Guinea.** A mature guinea or an old guinea may be of either sex and has toughened flesh and a hardened breastbone.

2-7. CLASSES OF PIGEONS

a. **Squab.** A squab is a young immature pigeon of either sex and is extra tender-meated.

b. **Pigeon.** A pigeon is a mature pigeon of either sex with coarse skin and toughened flesh.

2-8. CLASS INDICATORS

a. **Main Indicators of Class.** The main indicator of class, for the grader, are the age and sex of the bird. Processing into ready-to-cook poultry eliminates many of the definite indicators which are seen in live and dressed poultry.

b. **Specific Indicators.** Various indicators which may be seen in live, dressed, and ready-to-cook poultry are found in tables 2-1 and 2-2.

c. **Sex as a Factor.** Sex does not become a factor in classing poultry until the natural differences in the body conformation and distribution of flesh become quite evident. This never happens in such classes as geese and most breeds of duck. A lot of poultry containing two or more classes would be described as a "mixed class."

	YOUNG BIRDS	MATURE BIRDS
COMB (chickens)	Pliable, resilient, not wrinkled, points sharp	Wrinkled, coarser, thicker, points rounded
BILL (ducks)	Pliable; not completely hardened	Hardened
PLUMAGE	Fresh, glossy appearance	Faded, worn, except in birds which have recently molted
FAT	Smooth layers with brighter color; <u>not</u> lumpy over feather tracts	Generally darker in color; inclined to lumpiness over heavy feather tracts
BREASTBONE	Cartilage, if present, pliable and soft	End of keel hardened cartilage, bony
PINBONES	Pliable	Not pliable
SHANKS	Scales on shanks, smooth, small	Scales on shanks larger, rough, and slightly raised
OIL SAC	Small, soft	Enlarged, often hardened
SPURS (Male chickens, turkeys; occasionally adult females)	Small, undeveloped, corn-like	Spurs gradually increase in length with age, becoming somewhat curved and sharper; hens often have fine, sharp spurs after first year
WINDPIPE (ducks, geese)	Easily dented	Hardened, almost bony-like to the touch
FLESH	Tender meated, translucent appearance; fine texture	Coarser texture, darker, hardened muscle fibers
DRUMSTICKS	Lacking in development, muscles easily dented	Generally rounded, full, firm

Table 2-1. Indications of age in live poultry.

	MALE	FEMALE
HEAD	Usually larger with larger and longer attachments, such as comb and wattles; coarser in appearance than that of females	Smaller. rather fine and delicate in appearance compared with males; hen turkeys have hair on centerline of head
PLUMAGE	Feathers usually long and pointed at the ends; tail feathers in chickens long and curved; males of the parti-colored varieties have more brilliant colors than have the females; most male ducks have a curl in the tail feathers	Feathers inclined to be shorter and more blunt than those of the males; tail feathers short and straight in comparison with the males; modest colors in parti-colored varieties
BODY	Larger and generally more angular than the female; depth from keel to back greater on same weight birds; bones, including shanks, longer, larger, and coarser	Finer boned, body more rounded
SKIN	Slightly coarser, particularly in old birds; feather follicles larger; less fat under skin between heavy feather tracts and over back	Smoother, generally better distribution of fat between feather tracts; feather tracts narrower but carrying more fat
KEEL	Longer, with fleshing tending to taper at the base	Shorter, with more rounded appearance over the breast
LEGS	Drumsticks and thigh relatively long with flesh tending to show less full until mature	Drumstick and thigh relatively shorter with drumstick more inclined to roundness, increasingly so with age

Table 2-2. Indications of sex in live poultry.

2-9. CLASS REQUIREMENTS FOR CHICKENS

a. **Three Class Indicators.** Since chickens are the most commonly used kind of poultry, special mention will be made of their class indicators. Chickens are divided into classes according to age, weight, and sex of the bird. Determination of class is difficult when the chicken is frozen.

(1) Age. Age is determined primarily by the comparative flexibility of the tip of the breastbone but is also based on size and conformation of the bird. The cartilage at the tip of the breastbone is very flexible in young poultry, but, as a bird ages, the cartilage gradually hardens until it becomes firm and rigid. Young birds are rangy; the meat is light and soft, and the fat is evenly distributed. Older birds are more blocky; their meat is darker and tougher, and the fat is gobby or patchy. Excessive abdominal fat is common in heavyweight fowl.

(2) Weight. Weight ranges are stated for each class of chicken in the specification.

(3) Sex. Sex is determined in live birds by the size, shape, and development of the head, comb, wattles, feathering, and spur. In a dressed bird, the male carcass is larger and more angular than that of the female; the depth from keel to back is greater, and the bones are longer. The back is flat and box-shaped in the male, rounded in the female. The skin of the male is coarse, especially in older birds, with large feather follicles; the female has a smooth skin.

b. **Requirements for Troop Consumption.** Class often denotes the method of preparing chicken to eat based on the age and size of the bird and the tenderness of the meat. For troop consumption, the Armed Forces procure only Grade A broiler-fryers, roasters, and stewing chickens. (These are Classes 1, 2, and 5.)

Section II. CONDITION AND QUALITY

2-10. CONDITION OF POULTRY

a. **Condition Related to Quality Grading.** The discussion on condition in this subcourse will be in relation to the quality grading of poultry and not to destination inspections for condition. For more information on condition inspection at destination, refer to Subcourse MD0712, Poultry I.

b. **Questionable Conditions.** Condition refers to evidence of disease or other factors which may render the birds unfit for use as human food. In general, the following features are indications of questionable conditions:

- (1) Skin and flesh darker than normal.
- (2) The shanks pinched or shrunken.
- (3) A doughy consistency to the skin and flesh.

c. **Unwholesome Product.** Birds showing evidence of any disease or other condition which may render them unwholesome or unfit for use as human food will not be graded.

d. **Salvaging Rejected Product.** The fact that a bird has some condition that causes it to be classified as a reject does not necessarily mean that it must be destroyed. Parts or all of the bird might be found, upon evisceration and inspection, to be suitable for human food.

2-11. QUALITY FACTORS

a. **Grades (Ratings).** When the class and condition have been determined, each quality factor must be evaluated. The final quality rating of the bird will be based on the factor with the lowest rating. The grades (ratings) are:

- (1) A Quality.
- (2) B Quality.
- (3) C Quality.

NOTE: If a bird meets the requirements for A quality in all factors except one, and this particular factor was of B quality, the bird would be graded "B."

b. **Eight Quality Factors.** The following factors are to be considered in determining the quality of an individual ready-to-cook carcass or part:

- (1) Conformation.
- (2) Fleshing.
- (3) Fat.
- (4) Free of pinfeathers.
- (5) Free of exposed flesh resulting from cuts, tears, and broken bones.
- (6) Free of discoloration of skin and from flesh blemishes and bruises.
- (7) Examination for disjointed bones, broken bones, and missing parts.
- (8) Free of freezing defects.

c. **Tolerances Specified for Quality Rating.** When assigning a quality rating to a particular bird, the veterinary food inspection specialist will evaluate the degree, aggregate area (total area of defect), and location of the defect. Tolerances (allowable defects) for each of these factors are specified and stated for each quality rating (A, B, C). These tolerances will be further discussed in Lesson 3.

Continue with Exercises

EXERCISES, LESSON 2

INSTRUCTIONS: The following exercises are to be answered by marking the lettered response that best answers the question or best completes the incomplete statement or by writing the answer in the space provided.

After you have completed all the exercises, turn to "Solutions to Exercises" at the end of the lesson and check your answers. For each incorrect answer, reread the material referenced after the solution.

1. Kind refers to:
 - a. Grades of poultry.
 - b. Quality of poultry.
 - c. Class of poultry.
 - d. Species of poultry.

2. Write the proper class number for the chickens listed below.
 - a. Roaster - _____
 - b. Cornish game hen - _____
 - c. Broiler or fryer - _____
 - d. Fowl or hen - _____

3. The main indicators of class of poultry for the grader are:
 - a. _____
 - b. _____

4. A lot of poultry containing two or more classes would be described as a
_____.

5. Which of the following is more likely to have heavy abdominal fat?
- a. A fowl.
 - b. A capon.
 - c. A rooster.
6. Each class of poultry has one or more distinctive characteristics which enable the grader to properly classify an individual bird or lot. Indicate by the characteristics listed below whether it is a young or mature bird.
- a. Fat is dark in color. _____
 - b. Breastbone cartilage is pliable and soft. _____
 - c. Oil sac is small and soft. _____
 - d. Flesh has a coarse texture. _____
7. Indicate by the sex characteristic listed below whether a bird is a male or female.
- a. Finely boned body. _____.
 - b. Keel with rounded appearance over the breast. _____.
 - c. Skin with large feather follicles. _____.
 - d. Long drumsticks. _____.
8. Chickens are divided into classes according to:
- a. _____.
 - b. _____.
 - c. _____.

9. Birds showing evidence of a disease may be graded.

- a. True.
- b. False.

10. All birds classified as a reject must be destroyed.

- a. True.
- b. False.

11. List the quality factors that are considered when assigning a quality rating.

- a. _____.
- b. _____.
- c. _____.
- d. _____.
- e. _____.
- f. _____.
- g. _____.
- h. _____.

12. Which description below best describes a Class 4 chicken?

- a. A male chicken (mature).
- b. A general term used to describe all classes of poultry regardless of age.
- c. A female chicken (mature).
- d. Any chicken which is more than 10 months of age.

13. All of the following refer to handling and processing practices used for grading the quality of chicken **EXCEPT**:
- a. Freezing defects.
 - b. Missing parts.
 - c. Pinfeathers.
 - d. Exposed flesh.
 - e. Conformation.
14. A turkey that is tender-meated with soft, pliable, smooth-textured skin, under 8 months of age, is a:
- a. Mature turkey.
 - b. Yearling turkey
 - c. Fryer-roaster turkey.
 - d. Young turkey.
15. A duck that is tender-meated with a soft bill and a soft windpipe, under 8 weeks of age is a:
- a. Roaster duckling.
 - b. Mature duck.
 - c. Broiler or fryer duckling.
16. Which of the following have fat that is gobby or patchy?
- a. Male birds.
 - b. Female birds.
 - c. Young birds.
 - d. Mature birds.

17. Which bird is finer boned with a more rounded body?
- a. Male.
 - b. Female.
18. Which bird has feathers that are usually long and pointed at the ends and more likely to have brilliant colors?
- a. Male.
 - b. Female.
19. Which bird has the longer keel, with fleshing tending to taper at the base?
- a. Male.
 - b. Female.
20. In ducks and geese, which birds have a hardened windpipe and bill?
- a. Young birds.
 - b. Mature bird.
21. Which birds have soft and pliable cartilage and pliable pinbones?
- a. Young birds.
 - b. Mature birds.

Check Your Answers on Next Page

SOLUTIONS TO EXERCISES, LESSON 2

1. d (para 2-1a)
2. a Class 2. (para 2-2b)
b Class 5. (para 2-2e)
c Class 1. (para 2-2a)
d Class 4. (para 2-2d)
3. a. Age.
b. Sex. (para 2-8a)
4. mixed class. (para 2-8c)
5. a (para 2-9a(1))
6. a. Mature bird.
b. Young bird.
c. Young bird.
d. Mature bird. (Table 2-1)
7. a. Female.
b. Female.
c. Male.
d. Male. (Table 2-2)
8. Age.
Weight.
Sex. (para 2-9a)
9. b False. (para 2-10c)
10. b False. (para 2-10d)
11. Conformation.
Fleshing.
Fat.
Free of pinfeathers.
Free of exposed flesh resulting from cuts, tears, and broken bones.
Free of discoloration of skin and from flesh blemishes and bruises.
Examination for disjointed bones, broken bones, and missing parts.
Free of freezing defects.
(para 2-11b)

12. c (para 2-2d)
13. e (para 2-11b(1))
14. d (para 2-3b)
15. c (para 2-4a)
16. d (para 2-9a(1))
17. b (para 2-9a(3)); Table 2-2)
18. a (Table 2-2; para 2-9a(3))
19. a (Table 2-2; para 2-9a(3))
20. b (Table 2-1; paras 2-4 & 2-5)
21. a (Table 2-1; para 2-9a(1))

End of Lesson 2

LESSON ASSIGNMENT

LESSON 3

Verifying Grades of Poultry.

TEXT ASSIGNMENT

Paragraphs 3-1 through 3-24.

LESSON OBJECTIVES

After completing this lesson, you should be able to:

- 3-1. Evaluate sample units for eight quality factors.
- 3-2. Utilize the chart of specifications of quality for individual carcasses.
- 3-3. Determine a quality grading (rating).
- 3-4. Determine grade of poultry parts.

SUGGESTION

After studying the assignment, complete the exercises at the end of this lesson. These exercises will help you to achieve the lesson objectives.

LESSON 3

VERIFYING GRADES OF POULTRY

Section I. EXAMINING POULTRY FOR QUALITY FACTORS

3-1. GENERAL

After checking the contract to determine the required grade, the actual grade is determined by evaluating sample units for the quality factors. These factors have been presented in Lesson 2 (paragraph 2-11).

3-2. FACTORS IN EXAMINATION

a. **Standards When Grading.** The grading area should be illuminated to at least 50 foot-candles and should be located where cross-traffic and distracting noises are at a minimum. The grader should have the bird at a distance from his eye that is approximately the same distance used for reading. Graders who require glasses for reading should use them since minute pinfeathers, hairs, and small, wet feathers are particularly hard to see on white, feathered birds.

b. **Examination Sequence.** It is necessary to examine all parts of the bird before making a final decision on the quality. The usual procedure is to decide on the fleshing and fat covering first. This makes it easier to decide on the other factors.

c. **Condition Examination for Frozen Poultry.** Grading of frozen poultry that has been previously graded is generally a condition examination to determine whether the product has maintained its original quality. That is, it would be difficult to objectively assign grades to the factors of conformation, fleshing, and fat on a frozen product or a frozen product that has been thawed for inspection. However, since destination inspections are designed to spot obvious discrepancies, the inspector must be familiar with all factors in order to know what discrepancies can exist.

d. **Quality Requirements.** The chart in figure 3-1 explains the standards for the quality factors. It provides the specifications of quality for individual carcasses of ready-to-cook poultry and poultry parts that come from them.

FACTOR	A QUALITY	B QUALITY	C QUALITY
CONFORMATION	Normal	Moderate deformities	Abnormal
Breastbone	Slight curve or dent	Moderately dented, curved, or crooked	Seriously curved or crooked
Back	Normal (slight curve)	Moderately crooked	Seriously curved
Legs and Wings	Normal	Moderately misshapen	Misshapen
FLESHING	Well-fleshed, moderately long, deep and rounded breast	Moderately fleshed, considering kind, class, and part	Poorly fleshed
FAT COVERING	Well-covered (especially between heavy feather tracts on breast), considering kind, class, and part	Sufficient fat on breast and legs to prevent distinct appearance of flesh through the skin	Lacking in fat covering over all parts of carcass
PINFEATHERS			
Nonprotruding pins and hair	"Free"	Few scattered	Scattering
Protruding pins	"Free"	Occasional	Occasional
DISJOINTED BONES	1 disjointed bone	2 disjointed and no broken bones	No limit
BROKEN BONES	None	1 disjointed and 1 non-protruding broken bone	No limit
MISSING PARTS (Whole carcass only)	Wing tips and tail	Wing tips, 2nd wing joint, and tail Back area not wider than base of tail and extending half way between base of tail and hip joints	Wing tips, wing, and tail Back area not wider than base of tail, extending to area between hip joints
FREEZING DEFECTS (When consumer packaged)	Slight darkening over the back and drumsticks. Few, small 1/8" pockmarks for poultry weighing 6 lbs or less, and 1/4" pockmarks for poultry weighing more than 6 lbs. Occasional small areas showing layer of clear or pinkish ice.	Moderate dried areas not in excess of 1/2" in diameter. May lack brightness. Moderate areas showing layer of clear, pinkish, or reddish-colored ice.	Numerous pockmarks and large dried areas.

Figure 3-1. Summary of specifications for standards of quality for individual carcasses and parts (continued).

FACTOR		A QUALITY			B QUALITY			C QUALITY
EXPOSED FLESH ^{1,2}								
Carcass Weight		Breast & Legs	Else-where	Part	Breast & Legs	Else-where	Part	
Minimum	Maximum							
None	2 lbs	None	1"	Slight trim on edge	1/3 of flesh exposed on each part of carcass, provided meat yield not appreciably affected	1/3 of flesh exposed; meat yield not appreciably affected	No Limit	
Over 2 lbs	6 lbs	None	1 1/2"					
Over 6 lbs	16 lbs	None	2"					
Over 16 lbs		None	3"					
DISCOLORATIONS ³								
Carcass Weight		Breast & Legs	Else-where	Part	Breast & Legs ²	Else-where ²	Part	
Minimum	Maximum							
None	2 lbs	3/4"	1 1/4"	1/4"	1 1/4"	2 1/4"	1/2"	
Over 2 lbs	6 lbs	1"	2"	1/4"	2"	3"	1"	No Limit ⁴
Over 6 lbs	16 lbs	1 1/2"	2 1/2"	1/2"	2 1/2"	4"	1 1/2"	
Over 16 lbs		2"	3"	1/2"	3"	5"	1 1/2"	

¹Maximum aggregate area of all exposed flesh due to cuts, tears, and missing skin. In addition, carcass may have cuts or tears that do not expand or significantly expose flesh, provided the total aggregate length does not exceed the permitted tolerance for the weight range.

²For purposes of definition, the parts of the carcass shall be each wing, leg, entire back, and entire breast with each permitted to have one-third of the flesh exposed by cuts, tears, and missing skin.

³Flesh bruises and discolorations such as "blue back" are not permitted on breast and legs of A quality carcass or on these individual parts. Not more than one-half of total aggregate area of permitted discolorations may be due to flesh bruises or "blue back" (when permitted) and skin bruises in any combination.

⁴No limit on size and number of areas of discoloration and flesh bruises if such areas do not render any part of the carcass unfit for food.

Figure 3-1. Summary of specifications for standards of quality for individual carcasses and parts (concluded).

3-3. EXAMINING POULTRY FOR CONFORMATION

a. **Conformation.** Conformation concerns the structure of the bird. The structure of the bird determines to a considerable degree the distribution and amount of meat. Certain defects in structure detract from the sales appeal of the carcass. Some of the defects that should be noted are: breasts that are dented, crooked, knobby, or V-shaped; slabsided backs that are narrow, crooked, or hunched; legs and wings that are deformed; and bodies that are definitely wedge-shaped. Examine the breastbone, back, legs, and wings, and assign A, B, or C quality for conformation. (See figure 3-2)

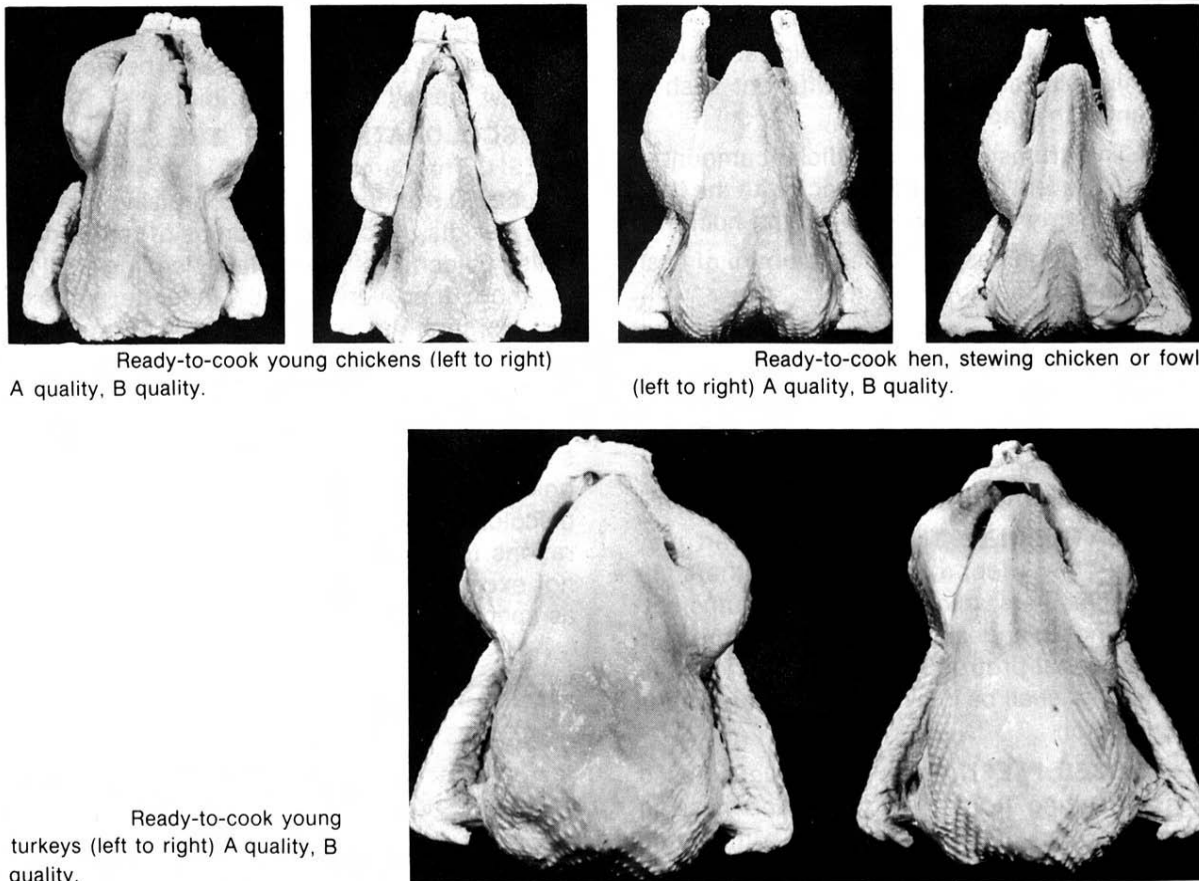


Figure 3-2. Illustration of A and B Quality conformation.

b. A, B, and C Quality Conformation.

(1) A Quality conformation. The carcass or part is free of deformities that detract from its appearance or that affect the normal distribution of flesh. Slight deformities, such as slightly curved or dented breastbones and slightly curved backs, may be present.

(2) B Quality conformation. The carcass or part may have moderate deformities, such as a dented, curved, or crooked breast, crooked back, or misshapen legs or wings. These deformities do not materially affect the distribution of flesh or the appearance of the carcass or part.

(3) C Quality conformation. If it is not of A or B quality, it may be of C quality.

3-4. EXAMINING POULTRY FOR FLESHING

a. **Fleshing (Amount of Meat)**. The drumsticks, thighs, and breast carry the bulk of the meat. There is, however, a definite correlation between the covering of the flesh over the back and the amount of flesh on the rest of the carcass. Females almost invariably carry more flesh over the back and will generally have a more rounded appearance to the breast, thighs, and legs. The common defects in fleshing are: breasts that are V-shaped or concave rather than full and rounded; breasts that are full near the wishbone but taper sharply to the rear; thighs and drumsticks that are thin; and backs that have insufficient flesh to cover the vertebrae and hip bones.

b. A, B, and C Quality Fleshing.

(1) A Quality fleshing.

(a) The carcass has a well-developed covering of flesh considering the kind, class, and part.

(b) The breast is moderately long and deep, and has sufficient flesh to give it a rounded appearance, with the flesh carrying well up to the crest of the breastbone along its entire length.

(c) The leg (thigh and drumstick) is well-fleshed and moderately thick. It is wide at the knee and hip joint area and has a well-rounded plump appearance. The flesh carries well down toward the hock and upward to the hip joint area.

(d) The drumstick is well-fleshed and moderately thick and wide at the knee joint. It has a well-rounded, plump appearance, with the flesh carrying well down toward the hock.

(e) The thigh is well to moderately fleshed.

(f) The wing is well to moderately fleshed.

(2) B Quality fleshing.

(a) The carcass has a moderate covering of flesh considering the kind, class, and part.

(b) The breast has a substantial covering of flesh. The flesh carries up to the crest of the breastbone sufficiently to prevent a thin appearance.

(c) The leg is fairly thick and wide at the knee and hip joint area and has sufficient flesh to prevent a thin appearance.

(d) The drumstick has a sufficient amount of flesh to prevent a thin appearance. The flesh carries fairly well down toward the hock.

(e) The thigh has a sufficient amount of flesh to prevent a thin appearance.

(f) The wing has a sufficient amount of flesh to prevent a thin appearance.

(3) C Quality fleshing. If it is not of A or B quality, it may be of C quality.

3-5. EXAMINING POULTRY FOR FAT COVERING

a. **Accumulation of Fat.** The color of the fat is not a part of the fat factor in quality. Fat in poultry is judged entirely on the basis of accumulation under the skin. This is true even in the case of chicken parts. Accumulations occur first around the feather follicles in the heavy feather tracts. Poorly fattened birds may have some accumulation of fat in the skin along the heavy feather tracts on the breast. As the bird progresses in "finish," accumulations will be noted at the juncture of the wishbone and keel and at the area where the thigh skin joins the breast skin. At the same time, accumulations will be noted around the feather follicles between the heavy feather tracts and over the back and hips. Well-finished older birds will have enough fat in these areas and over the drumsticks and thighs to make the flesh difficult to see. Fowl which have stopped laying have a tendency to take on excessive fat in the abdominal area. Well-finished young birds will have less fat under the skin between the heavy feather tracts on the breast and over the drumstick and thighs than mature birds. It should be noticeable, however.

b. A, B, and C Fat Covering.

(1) A Quality fat covering. The carcass or part, considering the kind, class, and part, has a well-developed layer of fat in the skin. The fat is well distributed, so that there is a noticeable amount of fat in the skin areas between the heavy feather tracts.

(2) B Quality fat covering. The carcass or part has sufficient fat in the skin to prevent a distinct appearance of the flesh through the skin, especially on the breast and legs.

(3) C Quality fat covering. If it is not of A or B quality, it may be of C quality.

3-6. EXAMINING POULTRY FOR PINFEATHERS

a. **Pinfeathers.** There are two types of pinfeathers to be considered in grading: protruding and nonprotruding. Protruding pinfeathers are those which have broken through the skin and may or may not have formed a brush. Nonprotruding pinfeathers are those which are in evidence but have not pushed their way through the outer layer of skin.

(1) Protruding pinfeathers. Ready-to-cook poultry must be free of protruding pinfeathers before a quality designation can be assigned. In this connection, the regulations define the words "free from protruding pinfeathers" to mean that the carcass is free from protruding pinfeathers which are visible to an inspector or grader during an examination of the carcass at normal operating speeds.

NOTE: A carcass may be considered as being free from protruding pinfeathers if it has a generally clean appearance (especially on the breast) and if not more than an occasional protruding pinfeather is in evidence during a more careful examination of the carcass.

(2) Vestigial feathers. Vestigial feathers (hair in the case of chickens, turkeys, guineas, and pigeons, and down on ducks and geese) must also be considered.

b. **A, B, and C Defeathering.**

(1) A Quality defeathering. The carcass or part has a clean appearance, especially on the breast. The carcass or part is free of hair, pinfeathers, and diminutive feathers which are visible to the grader.

(2) B Quality defeathering. The carcass or part may have a few nonprotruding pinfeathers or vestigial feathers which are scattered sufficiently so as not to appear numerous. Not more than an occasional protruding pinfeather or diminutive feather shall be in evidence under a careful examination.

(3) C Quality defeathering. If it is not of A or B quality, it may be C quality.

3-7. EXAMINING POULTRY FOR DISJOINTED BONES, BROKEN BONES, AND MISSING PARTS

a. **A Quality Disjointed and Broken Bones and Missing Parts.** Parts are free of broken bones. The carcass is free of broken bones and has not more than one disjointed bone. The wing tips (metacarpus and phalanges) may be removed at the joint. In the case of ducks and geese, the parts of the wing beyond the second joint may be removed, if removed at the joint and if both wings are so treated. The tail may be removed at the base. Cartilage separated from the breastbone is not considered as a disjointed or broken bone.

b. **B Quality Disjointed and Broken Bones and Missing Parts.** Parts may be disjointed but are free of broken bones. The carcass may have two disjointed bones or one disjointed bone and one nonprotruding broken bone. Parts of the wing beyond the second joint may be removed at a joint. The tail may be removed at the base. The back may be trimmed in an area which is no wider than the base of the tail and which extends from the tail to the area halfway between the base of the tail and the hip joints.

c. **C Quality Disjointed and Broken Bones and Missing Parts.** If it is not of A or B quality, it may be of C quality.

3-8. EXAMINING POULTRY FOR FREEZING DEFECTS

a. **Freezer Burn.** The discoloration and drying out of the skin of poultry carcasses during storage is commonly called "freezer burn." This defect detracts from the appearance and sales value of the carcass and, in the case of moderate or severe freezer burn, lowers the quality of the product.

NOTE: The skin of frozen poultry often shows a condition known as box burn. This shows up as a white area where the skin has come in contact with the lining of the box. The outer cuticle is the only part affected. This condition should not be confused with that of freezer burn. In grading, box burns would be included under discolorations.

b. **Other Freezing Defects.** In addition to "freezer burn," there are other freezing defects of significance in establishing the grade of consumer packaged poultry, parts, or specified poultry food products. These are:

(1) Darkening of the carcass due to slow freeze or defrosting.

(2) In the case of consumer packaged poultry or parts, layers of clear, pinkish, or reddish ice due to the seepage of moisture from the product.

c. **A, B, and C Quality Freezing Defect.**

(1) A Quality freezing defects. With respect to consumer packaged poultry, parts, or specified poultry food products, the carcass, part, or specified poultry food product is practically free from defects which result from handling or which occur during freezing or storage. The following defects are permitted if they, alone or in combination, detract only very slightly from the appearance of the carcass, part, or specified poultry food product.

(a) Slight darkening over the back and drumsticks, provided the frozen bird or part has a generally bright appearance.

(b) Occasional pockmarks due to drying of the inner layer of skin (derma). However, no pockmarks may exceed the area of a circle one-eighth inch in diameter for poultry weighing 6 pounds or less and one-fourth inch in diameter for poultry weighing over 6 pounds.

(c) Occasional small areas showing a thin layer of clear or reddish colored ice.

(2) B Quality freezing defects. With respect to consumer packaged poultry, parts, or specified poultry food products, the carcass, part, or specified poultry food product may have moderate defects which result from handling or occur during freezing or storage. The skin and flesh shall have a sound appearance but may lack brightness. The carcass or part may have a few pockmarks due to drying of the inner layer of skin (derma). However, no single area of overlapping pockmarks may exceed that of a circle one-half inch in diameter. Moderate areas showing layers of clear pinkish or reddish colored ice are permitted.

(3) C Quality freezing defects. If it is not of A or B quality, it may be of C quality.

3-9. EXAMINING POULTRY FOR EXPOSED FLESH

a. **Exposed (Uncovered) Flesh.** The poultry will be free from exposed flesh resulting from cuts, tears, and broken bones. Exposed flesh resulting from cuts, tears, missing skin, and broken or disjointed bones detract from the appearance of the bird. In addition, the quality of the bird is lowered because of bruises and blood clots which occur frequently with broken bones. Tears and missing skin permit the flesh to dry out during the cooking process and thus lower the eating quality of the bird. The number and extent of such defects that are permitted depend on their location, that is, whether they occur on the breast, legs, or elsewhere on the carcass.

b. A, B, and C Quality Exposed Flesh.

(1) A Quality exposed flesh. Parts are free of exposed flesh, resulting from cuts, tears, and missing skin (other than slight trimming on the edge). The carcass is free of these defects on the breast and legs. Elsewhere, the carcass may have exposed flesh due to slight cuts, tears, and areas of missing skin, provided that the aggregate of the areas of exposed flesh does not exceed the area of a circle with a diameter as specified in figure 3-1.

(2) B Quality exposed flesh. Parts may have exposed flesh resulting from cuts, tears, and missing skin, provided that not more than a moderate amount of the flesh normally covered by skin is exposed. The carcass may have exposed flesh resulting from cuts, tears, and missing skin, provided that the aggregate of the areas of flesh exposed does not exceed the area of a circle with a diameter as specified in figure 3-1.

(3) C Quality exposed flesh. If it is not of A or B quality, it may be of C quality.

3-10. EXAMINING POULTRY FOR DISCOLORATIONS OF THE SKIN AND FLESH

a. **Bruises.** Bruises in the flesh or skin are permitted only to the extent that there is no coagulation or clotting (discernible clumps of red cells). Small clots in the skin or on the surface of the flesh may be cut to allow them to leach out in the chilling process. Such cuts would be taken into consideration in determining the quality.

b. **Blue Back.** Turkeys, most frequently older birds, may have discolored areas over the back and wings and sometimes elsewhere. This condition is commonly called "blue back." A similar color is often found on the base of the keel and is associated with breast calluses. Certain varieties of chickens have a bluish or bluish-green color in the body lining. These discolorations detract from the appearance and are included in the total aggregate areas permitted for discolorations.

c. **A, B, and C Quality Discolorations of the Skin and Flesh.**

(1) A Quality discolorations of the skin and flesh. The carcass or part is practically free of such defects. Discolorations due to bruising shall be free of clots (discernible clumps of red or dark cells). Evidence of incomplete bleeding, such as more than an occasional slightly reddened feather follicle, is not permitted. Flesh bruises and discolorations of the skin, such as "blue back," are not permitted on the breast or legs of the carcass, or on these individual parts, and only lightly shaded discolorations are permitted elsewhere. The total areas affected by flesh bruises, skin bruises, and discolorations (such as "blue back"), singly, or in any combination, shall not exceed one-half of the total aggregate area of permitted discoloration. The aggregate area of all discoloration for a part (including box burn) shall not exceed that of a circle with a diameter as specified in figure 3-1.

(2) B Quality discolorations of the skin and flesh. The carcass or part is free of serious defects. Discoloration due to bruising shall be free of clots (discernible clumps of red or dark cells). Evidence of incomplete bleeding shall be no more than very slight. Moderate areas of discoloration due to bruises in the skin or flesh and moderately shaded discoloration of the skin, such as "blue back," are permitted. However, the total areas affected by such discoloration may not exceed one-half of the total aggregate area of all permitted discoloration. The aggregate area of all discolorations for a carcass (including box burn) shall not exceed the area of a circle with a diameter as specified in figure 3-1.

(3) C Quality discoloration of the skin and flesh. If it is not of A or B quality, it may be of C quality.

NOTE: See figure 3-3 as a guide for estimating the relative size of discolorations.

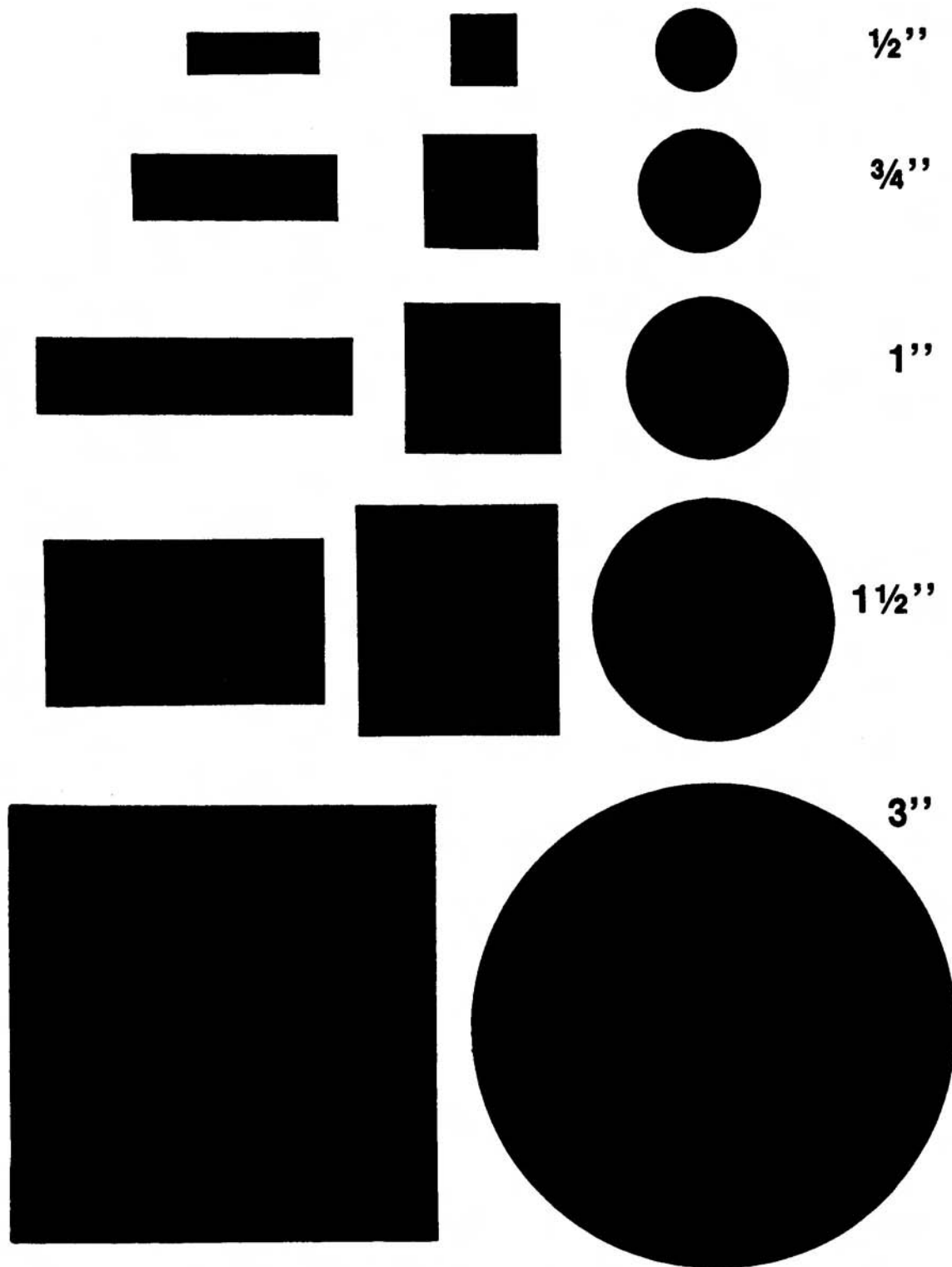


Figure 3-3. Guide for estimating the relative size of discolorations.

Section II. DETERMINING QUALITY GRADE (RATING)

3-11. QUALITY RATING (MATCHING THE GRADE DETERMINED WITH THE GRADE REQUIREMENTS)

When the class and condition have been determined and each quality factor has been evaluated, then the bird may be assigned a final quality rating or grade. (See figure 3-1 for a summary of quality requirements.) The grade is based on the factor with the lowest rating. Thus, if the bird meets the requirements for A quality in all except for one factor of B quality, the final grade designation would be "B."

3-12. CONSUMER GRADES

The US consumer grades (US Grade A, U.S. Grade B, and US Grade C, for ready-to-cook poultry) are applicable when each carcass or part has been individually graded.

a. **United States Grade A.** The US Grade A is designated as a lot of ready-to-cook poultry or parts consisting of one or more ready-to-cook carcasses or parts of the same kind and class, each of which conforms to the requirements for A quality.

b. **United States Grade B.** The US Grade B is designated as a lot of ready-to-cook poultry or parts consisting of one or more ready-to-cook carcasses or parts of the same kind and class, each of which conforms to the requirements for B quality or better.

c. **United States Grade C.** The US Grade C is designated as a lot of ready-to-cook poultry or parts consisting of one or more ready-to-cook carcasses or parts of the same kind and class, each of which conforms to the requirements for C quality or better.

3-13. PROCUREMENT GRADES

The US procurement grades for ready-to-cook poultry are applicable to carcasses of ready-to-cook poultry when each carcass in a lot is examined or when each carcass in a representative sample from the lot is examined.

a. **United States Procurement Grade I.** Any lot of ready-to-cook poultry composed of one or more carcasses of the same kind and class may be designated and identified as US Procurement Grade I when:

(1) Ninety percent or more of the carcasses in such lot meet the requirements of A quality with the following exceptions:

(a) Fat covering and conformation may be of B quality.

(b) Trimming of the skin and flesh to remove defects is permitted to the extent that not more than one-third of the flesh is exposed on any part and the meat yield of any part is not appreciably affected.

(c) Discoloration of the skin and flesh may be of B quality.

(d) One or both drumsticks may be removed if the part is severed at the joint.

(e) The back may be trimmed in an area not wider than the base of the tail and extending to the area between the hip joints.

(f) The wings or parts of wings may be removed if severed at the joint.

(2) The balances of the carcasses (10% or less) meet the same requirements, except they may have only a moderate covering of flesh.

b. **United States Procurement Grade II.** Any lot of ready-to-cook poultry of the same kind and class which fails to meet the requirements of US Procurement Grade I may be designated and identified as U.S. Procurement Grade II provided that:

(1) Trimming of flesh from any part does not exceed 10 percent of the meat.

(2) Portions of a carcass weighing not less than one-half of the whole carcass have the same approximate percentage of meat-to-bone yield as the whole carcass.

Section III. GRADING POULTRY PARTS

3-14. GENERAL

a. **Popular Market Style.** Poultry parts have become increasingly popular with the consumer. Some people prefer all white meat, and the all-breast pack serves this need. For those who prefer all dark meat, drumsticks, thighs, or whole leg packs serve the purpose. Parts are versatile. They are especially popular in specialty dishes and are ideal for barbecuing.

b. **Grading Guidelines for Parts.** A ready-to-cook carcass which has a defect may be graded after the defective portion has been removed. The fact that a portion of the carcass has been removed will not be considered in determining the quality of the balance of the carcass if the remaining portion of the carcass is to be disjointed and packaged as parts in the official plant where graded.

c. **Specific Grade Standards.** In 1969, specific grade standards were established for poultry parts. Provision was made in the poultry grading standards to grade parts after they have been cut from the carcass, providing the class is known and the parts are not misshapen or have nearly the same appearance as they had prior to cutting. Specific requirements for parts are set forth in the fleshing categories for Grade A and Grade B ready-to-cook poultry (paragraph 3-4).

d. **Quality Standards.** The USDA standards of quality are applicable to poultry parts cut in the manner described in paragraphs 3-15 through 3-24 or in some other approved manner. In addition, grade standards have been established for A, B, and C quality poultry backs depending upon the manner in which they are cut.

3-15. BREASTS

a. Breasts are separated from the back at the shoulder joint by a cut running backward and downward from that point along the junction of the vertebral and sternal ribs. See figure 3-4.

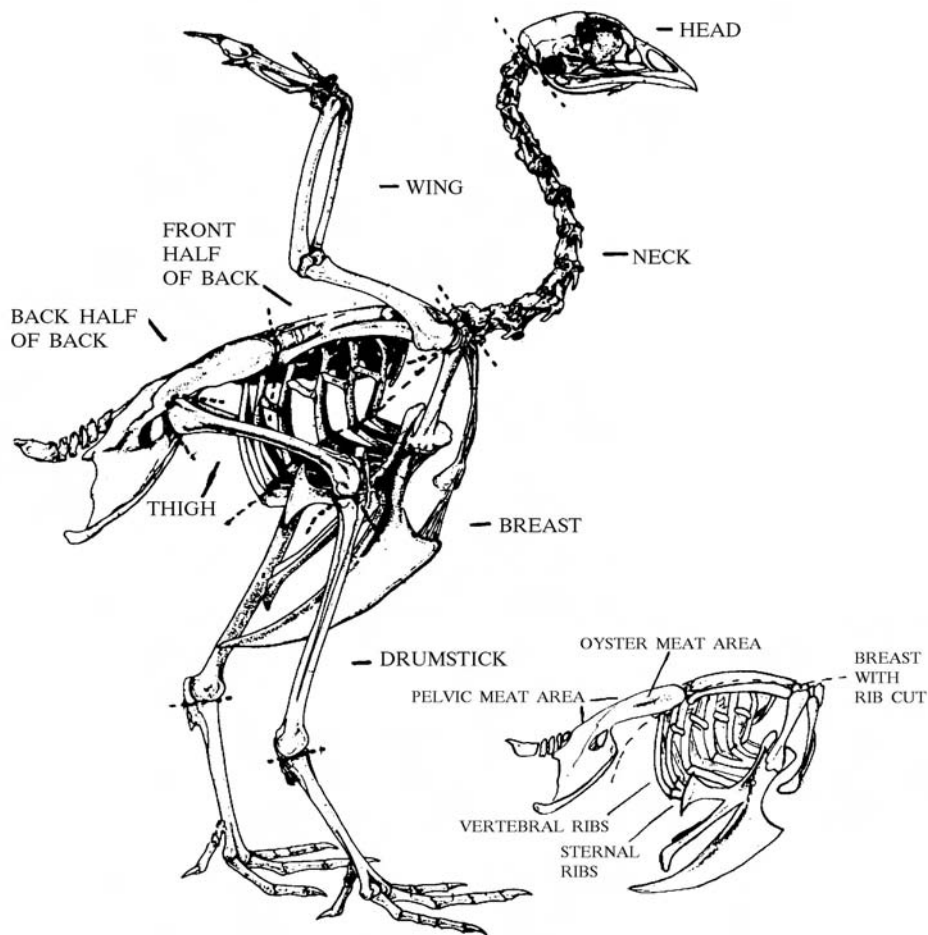


Figure 3-4. (Upper) Skeleton of chicken indication points to sever parts. (Lower) Illustration of rib and pelvic meat areas and point to cut breasts with ribs.

b. The ribs may be removed from the breasts, and the breasts may be cut along the breastbone to make two approximately equal halves; or the wishbone portion as described in paragraph 3-21 may be removed before cutting the remainder along the breastbone to make three parts. Pieces cut in this manner may be substituted for lighter or heavier pieces for exact weight-making purposes, and the package may contain two or more of such parts without affecting the appropriateness of the labeling as "chicken breasts." Neck skin is not included.

3-16. BREASTS WITH RIBS

Breasts with ribs (figure 3-5) are separated from the back at the junction of the vertebral ribs and back. Breasts with ribs may be cut along the breastbone to make approximately two halves; or the wishbone may be removed before cutting the remainder along the breastbone to make three parts. Pieces cut in this manner may be substituted for lighter or heavier pieces for exact weight-making purposes, and the package may contain two or more of such parts without affecting the appropriateness of the labeling as "breasts with ribs." Neck skin is not included.

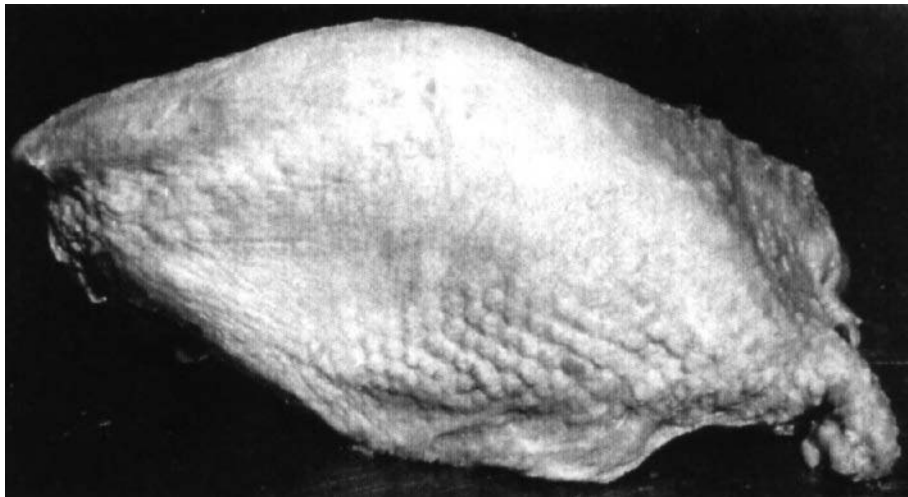


Figure 3-5. Breast with ribs.

3-17. WINGS

Wings include the entire wing with all muscle and skin tissue intact, except that the wing tip may be removed.

3-18. LEGS

Legs include the whole leg, that is, the thigh and the drumstick, whether jointed or disjointed. Back skin is not included. Pelvis meat may be attached to the thigh but will not include the pelvis bone (figure 3-6).

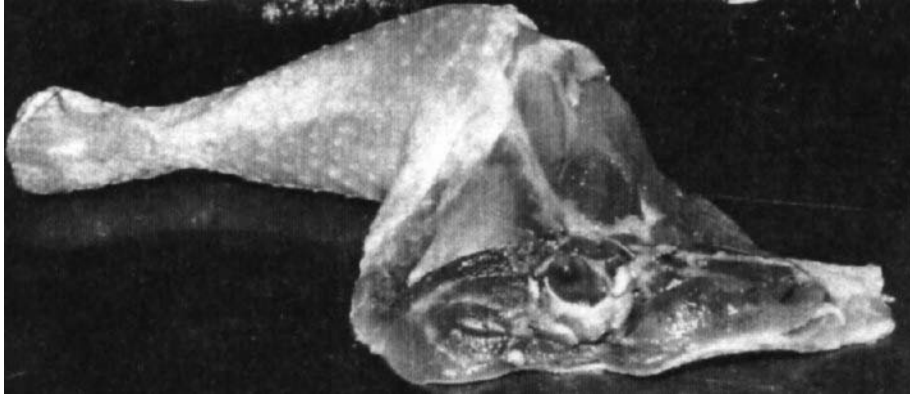


Figure 3-6. Leg with pelvic meat.

3-19. DRUMSTICKS

Drumsticks are separated from the thigh by a cut through the knee joint (femorotibial and patellar joint) and from the hock joint (tarsal joint) (figure 3-7).

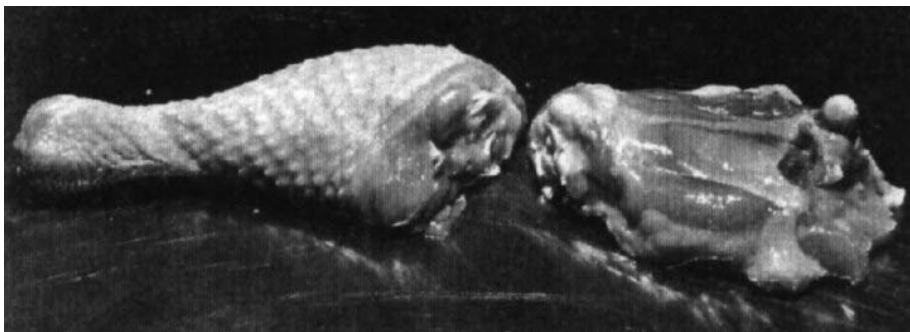


Figure 3-7. Drumstick separated from the thigh.

3-20. THIGHS

Thighs (figure 3-7) are disjointed at the hip joint and may include the pelvic meat but will not include the pelvic bones. Back skin is not included.

3-21. WISHBONES

Wishbones (pulley bones), with covering muscle and skin tissue (figure 3-8), are severed from the breast approximately halfway between the end of the wishbone (which is the clavicle) and the front point of the breastbone (the cranial process of the sternal crest) at the hypocledial ligament to a point where the wishbone joins the shoulder. Neck skin is not included.

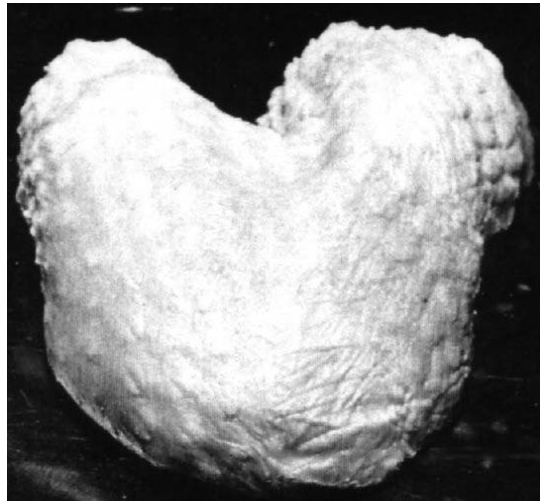


Figure 3-8. Wishbone.

3-22. HALVES

Halves (figure 3-9) are prepared by making a full-length back and breast split of the carcass so as to produce approximately equal right and left sides.



Figure 3-9. Half chicken.

3-23. QUARTERS

Quarters (figure 3-10) are prepared by splitting the carcass as specified under halves (paragraph 3-22). The resulting halves are then cut crosswise at almost right angles to the backbone to form quarters.



Figure 3-10. Quarters of chicken.

3-24. BACKS

Backs include the pelvic bones and all the vertebrae posterior to the shoulder joint. The meat may not be peeled from the pelvic bones. The vertebral ribs and/or scapula may be removed or included. Skin will be substantially intact.

a. **A Quality Backs.** A Quality backs will meet all applicable provisions pertaining to parts and will include the meat contained on the ilium (oyster), pelvic meat and skin, and vertebral ribs and scapula with meat and skin (figure 3-11).

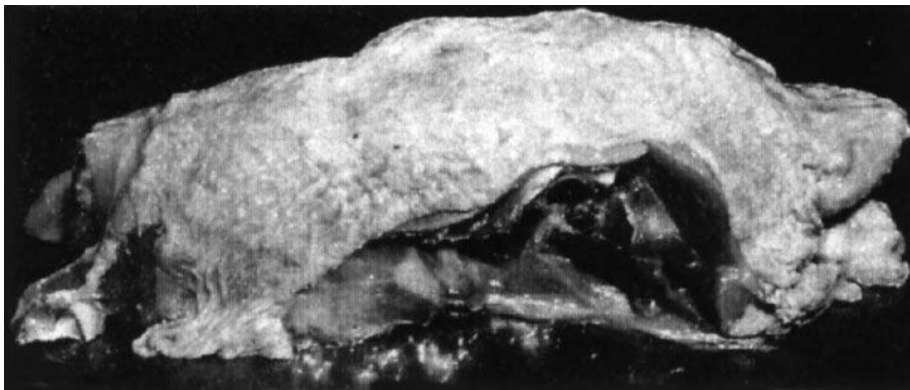


Figure 3-11. A Quality back with pelvic meat and vertebral ribs.

b. **B Quality Backs.** B Quality backs will meet all applicable provisions pertaining to parts and will include either the meat contained on the ilium (oyster) and meat and skin from the pelvic bones or the vertebral ribs and scapula with meat and skin (figure 3-12).

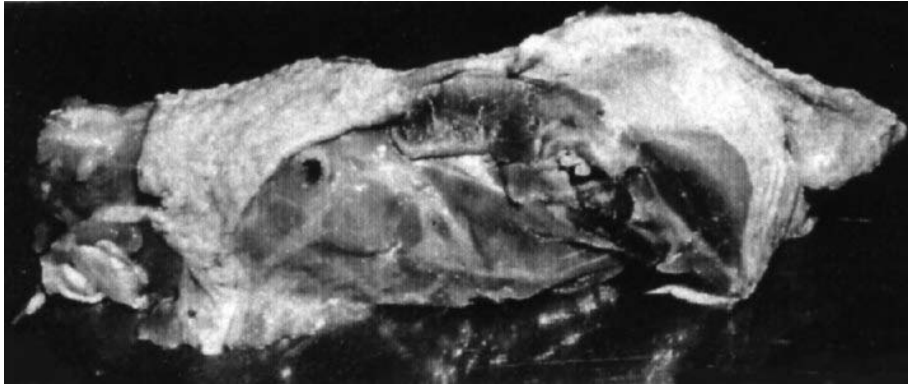


Figure 3-12. B Quality back with meat contained on the ilium (oyster) removed.

c. **C Quality Backs.** C Quality backs will include the meat and skin from the pelvic bones except that the meat contained on the ilium (oyster) may be removed. The vertebral ribs and scapula with meat and skin may also be removed, but the remaining portion must have the skin substantially intact (figure 3-13).

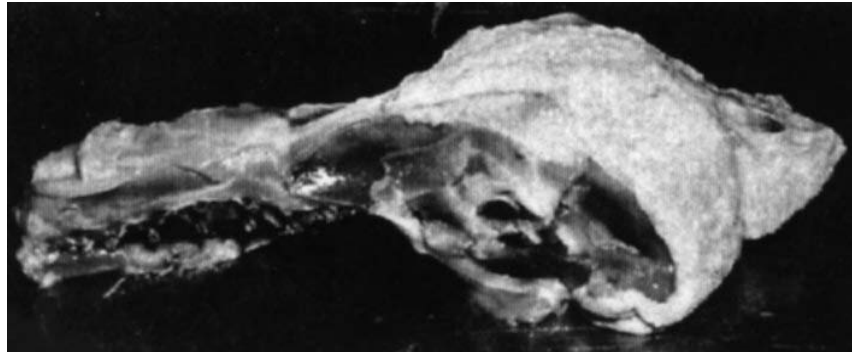


Figure 3-13. C Quality back with meat contained on the ilium (oyster) and vertebral ribs removed.

Continue with Exercises

EXERCISES, LESSON 3

INSTRUCTIONS: The following exercises are to be answered by marking the lettered response that best answers the question or best completes the incomplete statement or by writing the answer in the space provided.

After you have completed all the exercises, turn to "Solutions to Exercises" at the end of the lesson and check your answers. For each incorrect answer, reread the material referenced after the solution.

1. The grading area should be illuminated by at least _____ foot-candles.
 - a. 25.
 - b. 50.
 - c. 75.
 - d. 100.

2. Since most poultry received at destination for troop issue is frozen, the veterinary food inspection specialist inspecting for grade verification does not have to be familiar with the quality factors of conformation, fleshing, and fat covering. Is this statement true or false? Explain your answer.

3. The two types of pinfeathers to be considered when grading are _____ and _____.
4. Discoloration and drying out of the skin of poultry carcasses during storage is called _____.

5. White areas on the skin of poultry that has come in contact with the lining of a box is called _____.

6. Conformation as a quality factor for poultry relates to:
 - a. Layering of fat.
 - b. Fleshing.
 - c. Exposed flesh.
 - d. Structure of a bird.

7. Ready-to-cook poultry must be free of protruding pinfeathers that are visible to a grader during examination of the carcass at normal operating speeds. However, a carcass may be considered as being free from protruding pinfeathers if it has a generally clean appearance (especially on the breast) and if not more than an occasional protruding pinfeather is in evidence during a more careful examination of the carcass.
 - a. True.
 - b. False.

SPECIAL INSTRUCTIONS: In Exercises 8 through 13, match the list of conditions in Column A with the quality factors in Column B. Each quality factor may be used only once.

COLUMN A	COLUMN B
8. ____ Tears and missing skin	a. Discoloration
9. ____ Blue back	b. Fat covering
10. ____ Fat under the skin	c. Fleshing
11. ____ Covering of flesh	d. Exposed flesh
12. ____ Structure of bird	e. Freezing defect
13. ____ Freezer burn	f. Conformation

14. You are inspecting poultry parts and observe that neck skin is not found on the breasts. Is this condition acceptable?
 - a. Yes.
 - b. No.

15. You are inspecting poultry parts and observe that pelvic meat is attached to the thigh. Is this condition acceptable?
 - a. Yes.
 - b. No.

16. You are inspecting poultry parts and notice that wing tips are missing from the wings. Is this condition acceptable?
 - a. Yes.
 - b. No.

SITUATION FOR EXERCISES 17 THROUGH 24. You are a veterinary food inspection specialist assigned to inspect and verify the grade of poultry received at destination. All grading factors not listed will be considered A Quality.

17. Sample unit (carcass) shows a slightly curved breastbone. The quality grade for the sample unit would be:
 - a. A Quality.
 - b. B Quality.
 - c. C Quality.
 - d. No Grade.

18. Sample unit (carcass) has a dark-colored fat accumulation around the feather follicles. Otherwise, there is a well-developed layer of fat in the skin and there is noticeable fat in the skin between the heavy feather tracts. The quality grade for the sample unit would be:
- a. A Quality.
 - b. B Quality.
 - c. C Quality.
 - d. No Grade.
19. Sample unit (carcass) has numerous vestigial feathers concentrated in the area of the breastbone. The quality grade for the same unit would be:
- a. A Quality.
 - b. B Quality.
 - c. C Quality.
 - d. No Grade.
20. Sample unit (carcass) weighs 3 pounds. There is a 1 1/4 inch area of exposed flesh on the breast which resulted from the skin tearing. The quality grade for the sample unit would be:
- a. A Quality.
 - b. B Quality.
 - c. C Quality.
 - d. No Grade.

21. Sample unit had 4 factors assigned A Quality and 3 factors assigned B Quality. The quality grade for the sample unit would be:
- a. A Quality.
 - b. B Quality.
 - c. C Quality.
 - d. No Grade.
22. Chicken backs contain the meat on the ilium and meat and skin from the pelvic bones, but not the meat and skin from the vertebral ribs and scapula. The quality grade for the back would be:
- a. A Quality.
 - b. B Quality.
 - c. C Quality.
 - d. No Grade.
23. The poultry sample unit you are inspecting has an occasional protruding pinfeather and a few vestigial feathers. What quality grade should be assigned?
- a. A Quality.
 - b. B Quality.
 - c. C Quality.
 - d. No Grade.

24. You are inspecting a sample unit of poultry. You notice occasional pockmarks, the largest covering a circular area of 1/16 inch in diameter. The sample unit weighs three pounds. You also notice the reproductive organs have not been completely removed. What quality grade should be assigned?
- a. A Quality.
 - b. B Quality.
 - c. C Quality.
 - d. No Grade.
25. Select the poultry part that is disjointed at the hip joint and that may include the pelvic meat but not the pelvic bones or back skin.
- a. Backs.
 - b. Legs.
 - c. Drumsticks.
 - d. Quarters.
 - e. Thighs.
26. Select the poultry part that includes the thigh and the drumstick, whether jointed or disjointed, and does not include back skin.
- a. Legs.
 - b. Backs.
 - c. Halves.
 - d. Quarters.

Check Your Answers on Next Page

SOLUTIONS TO EXERCISES, LESSON 3

1. b (para 3-2a)
2. False. Since a destination inspection is designed to spot obvious discrepancies, the inspector must be familiar with all factors in order to know what discrepancies can exist. (para 3-2c)
3. Protruding and nonprotruding. (para 3-6a)
4. Freezer burn. (para 3-8a)
5. Box burn. (para 3-8a NOTE)
6. d (para 3-3a)
7. a (para 3-6a(1) NOTE)
8. d (para 3-9a)
9. a (para 3-10b)
10. b (para 3-5a)
11. c (para 3-4a)
12. f (para 3-3a)
13. e (para 3-8a)
14. a. Yes. Neck skin is not included. (para 3-15)
15. a. Yes. Pelvic meat may be attached to the thigh. (para 3-20)
16. a. Yes. Wing tips may be removed. (para 3-17)
17. a (para 3-3b(1))
18. a The color of fat is not a factor in determining quality. (para 3-5a)
19. c (paras 3-6a(1) & 3-6b(1), (2), (3))
20. b (para 3-9b(2); figure 3-1)

- 21. b (para 3-11)
- 22. b (para 3-24b)
- 23. b (para 3-6b(2); figure 3-1))
- 24. d (paras 3-8c(1)(b), 1-4c(3))
- 25. e (para 3-20)
- 26. a (para 3-18)

End of Lesson 3