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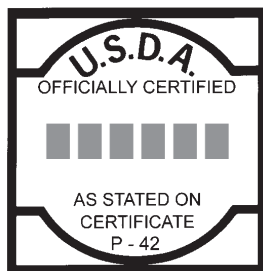
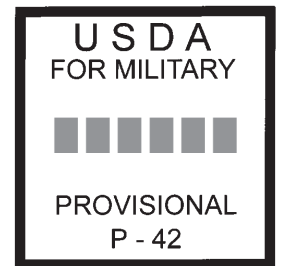
Agriculture  
Handbook  
Number 31

# Poultry-Grading Manual

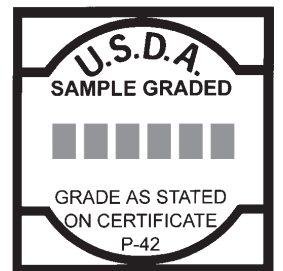
PREPARED FROM



POULTRY



This symbol of assurance guarantees the product has been graded by the U.S. Department of Agriculture according to the official US quality standards



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## I. Introduction

This manual is a guide to the uniform application of the U.S. Department of Agriculture (USDA) classes, standards, and grades for poultry, and to USDA's voluntary poultry grading and certification services. It can also serve as the course outline for a poultry grading school.

It is designed primarily to aid poultry graders. However, it should also prove useful to those teaching poultry marketing, to quality control personnel in the poultry industry, and to volume food purchasers.

## II. Poultry Grading and Certification Services

**Grading** is classifying and sorting poultry according to various groups of conditions and quality characteristics. Ready-to-cook poultry carcasses and parts, and certain poultry products, may be graded for quality according to official standards and grades.

**Certification** is verifying that ready-to-cook poultry carcasses, parts, and products meet the specific requirements of a volume food buyer's purchase contract or specification. Certificates or other documents issued may include certification for product condition and temperature, official verification of net weight, and grade yield.

These 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, most chickens and turkeys reach the market in value-added forms, such as cut-up parts, boneless and/or skinless cuts, and further-processed products, including ready-to-cook and pre-cooked entrees. This array of poultry and poultry products can be found year-round in the fresh and frozen meat sections of the grocery store.

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.

The use of grading and certification services is voluntary; the services are offered on a fee-for-service basis. Those who 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.

### A. Poultry Programs

Voluntary poultry grading and certification services are performed by the Poultry Programs of USDA's Agricultural Marketing Service (AMS). The Programs' national office oversees regional and State offices that supervise graders stationed across the country.

**Resident grading** is usually performed by a grader assigned to a specific processing plant on a full-time or part-time basis. If multiple graders are assigned to a plant, one of them will be designated as the grader-in-charge.

Most plants process large volumes of poultry. Since each carcass or part must be individually graded, plant employees authorized by the resident grader assist in the grading process. These authorized graders examine and grade the poultry according to the official quality standards. The resi-

dent grader performs final checkgrading and certification through a representative sampling plan.

Resident grading costs include an amount equal to the salary of the resident grader, plus a charge based on the volume of product handled in the plant to cover supervisory and administrative costs. The cost per pound of poultry for this service is generally little more than that incurred by plants employing their own graders and quality control personnel.

Most grading services provided to resident plants are also available on a temporary plant basis; that is, on an as-needed basis. Temporary plant fees are based on the time needed to perform the work. Temporary plants must meet all of the minimum facility, operating, and sanitary requirements specified in the regulations for resident service.

**Fee grading** is performed when an applicant requests grading of a particular lot of poultry, often for verification of net weight, condition, or compliance with other contract requirements. 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 work. Most fee grading work is done at locations other than processing plants, such as distribution facilities or destination points.

**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 individual firms, with the concurrence of USDA. Fees are collected by the State. 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 and the State is paid by USDA for the costs it incurs performing grading work and supervision.

## **B. Poultry Eligible for Grading and Certification**

The **kinds** of poultry eligible for grading and certification include, but are not limited to, chickens, turkeys, ducks, geese, pigeons, and guineas. The **form** may be as a ready-to-cook carcass or part or as a further processed product.

All poultry that is graded or certified must first be inspected. **Inspection** refers to the wholesomeness of poultry and its fitness for food. It is not concerned with quality or grade. The inspection mark means that the poultry has passed examination by a qualified USDA veterinarian or inspector during slaughter and/or processing. All slaughter plants are supervised by a USDA veterinarian. Plants which apply for

inspection service and are accepted are known as "official establishments."

Under the Poultry Products Inspection Act of 1957, USDA provides mandatory Federal inspection of poultry and poultry products shipped in interstate or foreign commerce. The Wholesome Poultry Products Act of 1968 strengthened that law and opened the way for vastly improved State poultry inspection systems. All poultry slaughtered for human food destined for sale in commerce must be processed, handled, packaged, and labeled in accordance with the Act and its regulations. Mandatory Federal inspection service, except for overtime and holiday work, is paid for by the Government.

States with inspection systems equal to the Federal program conduct inspection in plants shipping only within that State. In States without such programs, intrastate plants are also under Federal inspection.

Voluntary inspection service for squab and game birds is provided under authority of the AMA and the cost is paid by the applicant.

Administration of both mandatory and voluntary Federal inspection is the responsibility of USDA's Food Safety and Inspection Service (FSIS).

After poultry has passed inspection and is ready to be graded or certified, the grader must be sure that it is still in a wholesome condition. Ready-to-cook poultry that is off-condition (slimy or slippery condition of the skin, putrid or sour odor) is ineligible for grading. In addition, ready-to-cook poultry showing other non-acceptable conditions cannot be graded. If the grading is done at the processing plant, the poultry must be sent back for reworking. If the grading is performed elsewhere, the number of carcasses or parts found with these conditions would be recorded, and the lot would be ineligible for grading. These conditions include excessive protruding feathers, bruises requiring trimming, lungs incompletely removed, parts of the trachea present, or extraneous material of any type inside or outside of the carcass (i.e., fecal material, blood, grease, gall stains, dirt, metal, wood).

### C. Official Identification Marks

Labels bearing the inspection mark are the responsibility of FSIS. Questions regarding the accuracy and use of any label bearing the official grademark are handled through FSIS. All labels bearing official grade identification are also reviewed by AMS to determine accuracy and for final approval.

The **inspection mark** (fig. 1) is required on consumer packages and shipping containers of poultry inspected under the Poultry Products Inspection Act.

#### Marks on Consumer Packages

The **grademark** must either be printed with light-colored letters on a dark field (fig. 2a) or dark-colored letters on a light field (fig. 2b).

As an alternative, the **grademark** may have three contrasting colored bands (fig. 3) provided the colors, from top to bottom, are blue, white, and red. Other color combinations may be used with AMS approval.

The **prepared from logo** (fig. 4), in conjunction with the official grademark, may be used for raw, cooked, or further-processed products which have no established grade standards. Such items include cooked, barbecued, color marinated chicken; batter/breaded poultry; and smoked products. These products are graded for all quality standards prior to further processing that alters the grade factors.

#### Marks on Shipping Containers

This **grademark** (fig. 5) is used on containers to designate a consumer grade. The date the product was graded may or may not be used in conjunction with the grademark when applied by stamping. Preprinted grademarks do not require a date.

The **sample graded stamp** (fig. 6) is used when grade certification is made in conjunction with other factors, such as condition, test weighing, and temperature certification. This stamp may only be used when a certificate is actually issued and shall show the certificate number in the stamp.

The **contract compliance stamp** (fig. 7) 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. The stamp must include the number of the certificate issued for each shipment of complying product.

The **provisional stamp** (fig. 8) 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 Personnel Support Center purchase contracts. 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.

The **lot stamp** (fig. 9) may be used to identify product that has been graded according to special purchase requirements, such as product for commodity purchase programs placed in a freezer until sufficient quantities accumulate for subsequent sale and delivery. It may also be used to identify further-processed items produced according to approved specifications. The consecutive day of the year when the product was graded is in this stamp.

The **officially certified mark** (fig. 10) is used on poultry sampled for temperature, condition, weight, or other certifications where the grade is not referenced on the certificate or when product is not identified with an official grade. This stamp may be used only when a certificate is actually issued and shall show the certificate number in the stamp.

Official Identification Marks



Figure 1



Figure 2a



Figure 2b



Figure 3



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Figure 4

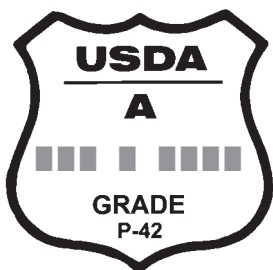


Figure 5

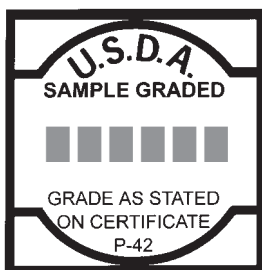


Figure 6



Figure 7

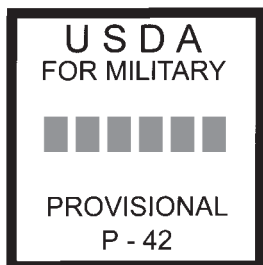


Figure 8

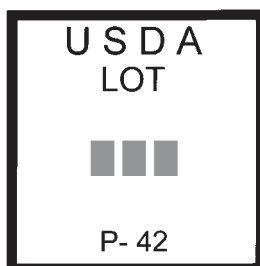


Figure 9

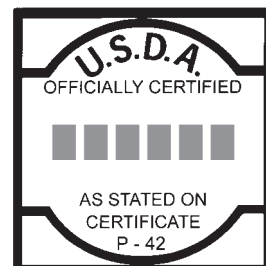


Figure 10

### III. Grading According to Quality Standards and Grades

**Quality** refers to the inherent properties of a product that determine its relative degree of excellence or value. Experience and research have identified certain properties in poultry that are desired by producers, processors, and consumers. Some of these properties are a good proportion of meat to bone, adequate skin covering, absence of feathers, and freedom from discolorations.

**Standards of quality** enumerate the factors that affect these properties and apply to individual ready-to-cook poultry carcasses, parts, and products. There are no grade standards for giblets, detached necks and tails, wing tips, and skin.

For carcasses and parts, the factors include conformation, fleshing, fat covering, defeathering, exposed flesh, discolorations, disjointed or broken bones, missing parts from whole carcasses, and freezing defects, if applicable. For poultry products, such as boneless-skinless breasts, factors include presence of bones, tendons, cartilage, discolorations, and blood clots, as well as other product-specific factors.

**Grades** apply to lots of poultry of the same kind and class, each of which conforms to the requirements for the grade standard. The U.S. consumer grades for poultry are U.S. Grades A, B, and C.

**Grading** involves evaluating poultry in terms of the standards to determine the grade. Figures 11-14 show an A quality young chicken, turkey, duck, and goose. A given lot of poultry may contain a small percentage of a quality lower than the grade specified because some defects are permitted. This is an unavoidable necessity due to today's production-type processing methods.

Poultry grade standards have changed over the years to reflect developments in poultry production, processing, and marketing. Standards for ready-to-cook poultry were added to the regulations in 1950. Roasts were added in 1965. Parts and boneless breasts and thighs were added in 1969. All provisions for grading live and dressed poultry were eliminated in 1976. Large poultry parts, skinless carcasses and parts, and tenderloins were added in 1995. As the need arises and meaningful quality factors are established for other products, additional grade standards will be developed.



Figure 11. Ready-to-cook young chicken. (Photo No. 96-CS-1482)



Figure 12. Ready-to-cook young turkey. (Photo No. 96-CS-1483)

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 U.S. Grade A. The letters "U.S." or "USDA" may only be used with a poultry grademark if the poultry has been graded by an authorized grader and subsequently checkgraded by a USDA 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 other similar wording, may only be used with the U.S. grademark if the product was produced from graded poultry.





Figure 13. Ready-to-cook young duck. (Photo No. 96-CS-1484)



Figure 14. Ready-to-cook young goose. (Photo No. 96-CS-1485)

#### A. Uses of Standards and Grades

Standards and grades are used extensively throughout the marketing system.

- 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.
- Poultry firms that base the price paid to the grower on grade yields will grade the product to USDA standards.
- Processors request grading service to enhance their own quality assurance programs and so they may use the official grademark on each bird or package.
- The Department of Defense, airlines, grocery stores, fast-food restaurants, hospitals, schools, and other large-scale food buyers specify USDA-graded poultry products in their purchasing contracts.
- Commercial firms use the standards and grades as a basis for their own product specifications, for advertising, and for establishing brand names.
- Firms participating in the Department's Export Enhancement Program must use USDA's grading services.

- 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 or may use the grades as the basis for negotiating loans, settling disputes involving quality, or paying damage claims.

#### B. Examining Carcasses and Parts To Determine Quality

In today's high-volume processing operations, poultry is initially graded by plant employees specifically authorized by USDA to perform this work. Subsequently, the product is checkgraded by a USDA grader to determine compliance with applicable grade standards.

Each carcass or part, including those used in preparing a poultry food product bearing the grademark, must be graded and identified in an unfrozen state on an individual basis. The class must also be determined since the quality factors of fat, fleshing, and conformation vary with the age and sex of the bird.

Most carcasses and parts are graded on the production line or out of the cooler. Poultry being graded should be approximately reading distance from the grader's eye. Whole carcasses can be examined by grasping the hocks of the bird in one hand with the breast up. In this position, the grader can easily observe the breast, wings, and legs, and by a mere twist of the wrist, the back of the bird can be turned into position to be observed. When parts are graded, the side nearest the grader should be examined first, then the part turned around so the opposite side can be examined.

The usual procedure is to decide on the conformation, fleshing and fat covering factors first. This makes it easier to decide on the other factors. The intensity, aggregate area, location, and number of defects must also be evaluated. In each quality level there are maximum defects permitted, some varying with the weight of the ready-to-cook carcass.

The final quality rating is based on the factor with the lowest rating. Thus, if the requirements for A quality are met in all factors except one, and this factor is B quality, the final grade designation would be "B." The carcass or part is then placed in the proper grade location by the grader or by an electronically controlled computer system.

When the resident grader checkgrades the product, the acceptable quality level (AQL) procedures used are based on the percent of defective undergrade birds or parts present. If the AQL results show that there are excessive undergrades, product is withheld until the undergrades are removed. When excessive defects are encountered, the graders work with plant management to help identify and correct the problem.



### C. Quality Factors for Carcasses and Parts

The following factors must be considered when determining the quality of an individual ready-to-cook carcass or part.

#### Conformation

The structure or shape of the bird may affect the distribution and amount of meat, while certain defects detract from its appearance. Some of the defects that should be noted are breasts that are dented, crooked, knobby, or V-shaped; backs that are crooked or hunched; legs and wings that are deformed; and bodies that are definitely wedge-shaped.

#### Fleshing

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; legs and drumsticks that are thin; and backs that have insufficient flesh to cover the vertebrae and hip bones.

#### Fat Covering

Fat in poultry is judged entirely by accumulation under the skin. This is true even for 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. Then, accumulations will be noted at the juncture of the wishbone and keel and 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 sufficient fat in these areas and over the drumsticks and thighs so that the flesh is difficult to see. Fowl which have stopped laying have a tendency to take on excessive fat in the abdominal area. Younger birds will generally have less fat under the skin between the heavy feather tracts on the breast and over the drumsticks and thighs than mature birds.

#### Feathers

Processors try to eliminate the problem of feathers by moving poultry to slaughter after feathering cycles are over. There is, for instance, a very short period within which the slaughtering of ducklings must be done. With other classes, the period is longer and attention is given primarily to noting if the bulk of the pins have sufficient brush on them to facilitate picking.

Protruding feathers have broken through the skin and may or may not have formed a brush. Nonprotruding feathers

are evident but have not pushed through the outer layer of skin.

Before a quality designation can be assigned, ready-to-cook poultry must be free of protruding feathers 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 feathers if it has a generally clean appearance (especially on the breast and legs) and if not more than an occasional protruding feather is in evidence during a more careful examination of the carcass.

Hair on chickens, turkeys, guineas, and pigeons; and down on ducks and geese must also be considered.

#### Exposed Flesh, Cuts, Tears, and Broken Bones

Exposed flesh can result from cuts, tears, missing skin, or broken or disjointed bones. It detracts from the appearance of the carcasses and parts and permits the flesh to dry out during cooking, thus lowering the eating quality. The number and extent of such defects permitted depend on their location—whether on the breast, legs, or elsewhere.

#### Skin Discolorations, Flesh Blemishes, and Bruises

Most poultry is packaged in material that reduces exposure to air. However, in time the skin will still dry out and become discolored. If drying has occurred, the size of the areas is taken into consideration as a discoloration.

Discolorations are categorized as slight, lightly shaded, or moderate. Slight discolorations are generally pinkish in color and usually do not detract from the appearance of the product. Lightly shaded discolorations are generally reddish in color and usually confined to areas of the skin or the surface of the flesh. Moderately shaded discolorations are areas that are generally dark red or bluish, or are areas of flesh bruising.

Bruises in the flesh are permitted only to the extent that there is no coagulation or clotting of blood 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. Dark blue or green bruises must be removed before grading. Excessive grade loss because of bruises should be called to the attention of management.

The intensity of the yellow finish on chicken is not a quality factor. The presence of yellow skin occurs genetically when a carotenoid pigment is deposited in the epidermal layer of skin. The yellow skin color is commonly intensified by incorporating pigments known as xanthophylls into the bird's diet. If poultry firms scald poultry at lower temperatures (124 to 126 °F), the epidermal layer of skin (cuticle) remains on the chicken and its yellow appearance is enhanced. For the fast-food market wanting batter/breaded

fried products or for customers preferring a lighter appearance on poultry, firms will scald poultry at higher temperatures (132 to 136 °F) to remove the cuticle. This enhances the bonding of the batter/breading to the chicken skin, but extra precautions must be taken to reduce the exposure of the product to air.

#### **Freezing Defects**

Discoloration and dehydration of poultry skin or the surface of skinless products during storage is commonly called "freezer burn." This defect detracts from the appearance of the product and, in the case of either moderate or severe freezer burn, lowers the quality of the poultry.

Slow freezing promotes ice formation on the outside of the meat tissue cells, drawing water out of the cells, possibly preventing the tissue from ever freezing, and causing the tissue to dehydrate and shrink. Also, larger ice crystals are formed that may rupture the cells causing the release of the cell contents, increasing drip loss, and resulting in a less juicy and softer textured product as the muscle structure breaks down. This can adversely affect the shelf life of the product.

Slow freezing also affects product color. It causes bone darkening as bone marrow material is released into the bone structure and adjacent meat. It causes dark carcasses as the transparency of the skin increases, thus allowing the dark color of the meat to show through the skin.

Poultry quality and stability are adversely affected at temperatures above 10 °F. Poultry products begin to thaw from the outside in once the product temperature reaches a temperature above 10 °F, at which time seepage of moisture from the defrosting product results in clear, pinkish, or reddish colored layers of ice. Poultry located in the center of a tightly stacked pallet may not freeze if cold air is prevented from circulating between and around the individual cases.

#### **D. Cutting Poultry Parts**

The USDA standards of quality apply to poultry parts cut in the manner described below and illustrated in figures 15-29. While most descriptions were developed when parts were cut from a carcass by hand, most processors today disjoint whole carcasses by machine. Machine-cut parts may be graded provided they are not misshapen and have nearly the same appearance as they had prior to cutting from the carcass. Under certain conditions, parts cut in other ways may also be officially identified when properly labeled. Only skin or fat normally associated with a part may be included unless stated on the label.

The illustration of the skeleton of a chicken (fig. 30) shows the points where the parts are cut and gives the names of the skeletal parts.

**Poultry halves** (fig. 15) are prepared by making a full-length back and breast split of the carcass to produce approximately equal right and left sides. Portions of the backbone must remain on both halves. The cut may be no more than one-fourth inch from the outer edge of the sternum (breastbone).



Figure 15. Poultry halves. (Photo No. 96-CS-1486)

**Front poultry halves** (fig. 16) include the full breast with corresponding back portion, and may or may not include wings, wing meat, or portions of wing.



Figure 16. Front poultry half. (Photo No. 96-CS-1487)

**Rear poultry halves** include both legs and adjoining portion of the back.

**Quarters** consist of the entire eviscerated poultry carcass which has been cut into four equal parts, excluding the neck.

**Breast quarters** (fig. 17) consist of half a breast with the wing and a portion of the back attached.

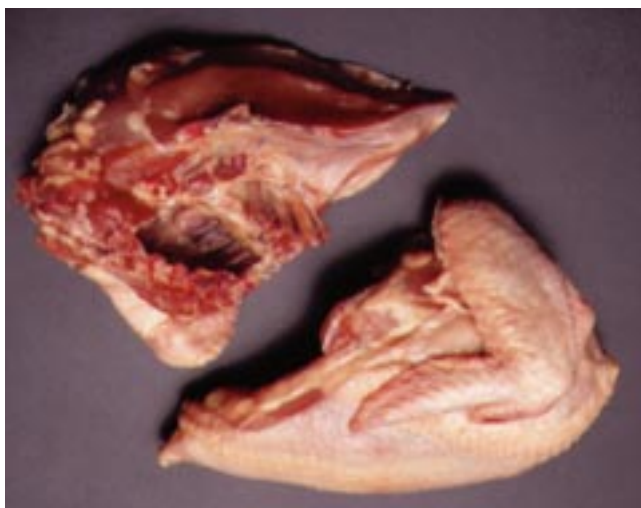


Figure 17. Breast quarters. (Photo No. 96-CS-1488)

**Breast quarters without wing** consist of a breast quarter of a poultry carcass from which the wing has been removed.

**Leg quarters** (fig. 18) consist of a thigh and drumstick, with a portion of the back attached. It may also include attached abdominal fat and a maximum of two ribs. A leg with a complete or entire rear back portion attached may also be grade identified if certain criteria are met.



Figure 18. Leg quarters. (Photo No. 96-CS-1489)

**Breasts** are separated from the back at the shoulder joint and by a cut running backward and downward from that point along the junction of the vertebral and sternal ribs. 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 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 with the breasts, except that "turkey breasts" may include neck skin up to the whisker.

**Breasts with ribs** 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 two approximately equal halves; or the wishbone portion 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, except that "turkey breasts with ribs" may include neck skin up to the whisker.

**Split breasts with back portion or breast halves with back portion** (fig. 19) are prepared by making a full-length cut of front poultry halves without wings. If labeled "split breast(s)," centering of the cut is not required to produce two approximately equal halves.

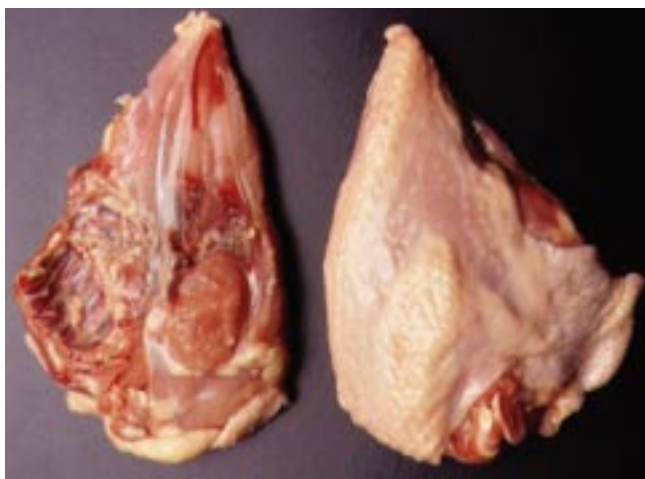


Figure 19. Split breast with back portion. (Photo No. 96-CS-1490)

**Legs** (fig. 20) consist of the attached thigh and drumstick, whether jointed or disjointed. Back skin is not included. The patella (kneebone) may be included on either the drumstick or thigh.



Figure 20. Legs. (Photo No. 96-CS-1491)

**Thighs** (fig. 21) are disjointed at the hip joint and may include the pelvic meat, but not the pelvic bones. Back skin is not included. Thighs may also include abdominal meat (flank meat), but not rib bones.

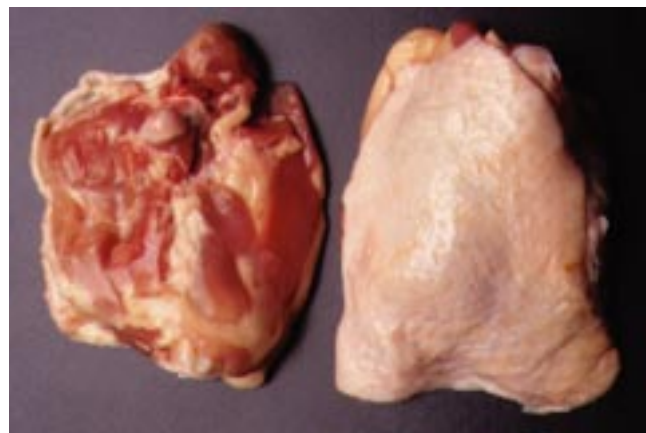


Figure 21. Thighs. (Photo No. 96-CS-1492)



**Thighs with back portion** (fig. 22) consist of a poultry thigh with back portion attached.

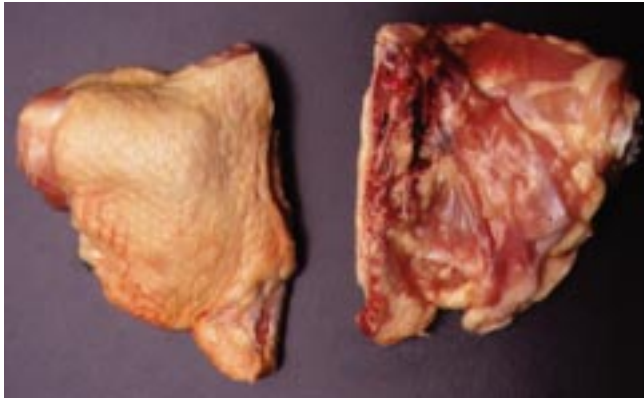


Figure 22. Thighs with back portion. (Photo No. 96-CS-1493)

**Drumsticks** (fig. 23) are separated from the thigh and hock by cuts through the knee joint (femorotibial and patellar joint) and the hock joint (tarsal joint), respectively.



Figure 23. Drumsticks. (Photo No. 96-CS-1494)

**Wings** (fig. 24) include the entire wing with all muscle and skin tissue intact, except that the wing tip may be removed.



Figure 24. Wings. (Photo No. 96-CS-1495)

**Wing drummettes** (fig. 25) consist of the humerus (first portion) of a wing with adhering skin and meat attached.



Figure 25. Wing drummettes. (Photo No. 96-CS-1496)

**Boneless-skinless poultry**, except as noted, is free of tendons, cartilage, bone pieces, blood clots, discolorations, and muscle mutilation.

**Boneless-skinless breasts** (fig. 26) or **breasts with rib meat** are prepared from breasts cut as described for “breasts” and for “breasts with ribs.”



Figure 26. Boneless-skinless breasts. (Photo No. 96-CS-1497)

**Tenders** are any strip of breast meat.

**Tenderloins** (fig. 27) are the inner pectoral muscle which lies alongside the sternum (breastbone). Tendons may be present.



Figure 27. Tenderloins. (Photo No. 96-CS-1498)

**Boneless-skinless thighs** (fig. 28) are prepared from thighs cut as described for “thighs.”

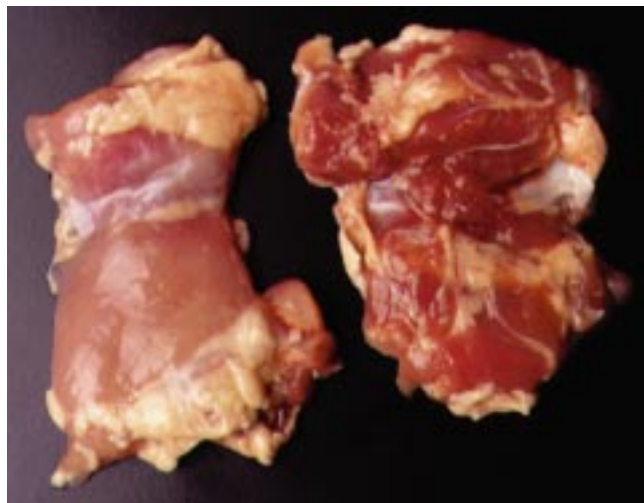


Figure 28. Boneless-skinless thighs. (Photo No. 96-CS-1499)

**Boneless-skinless drums** (fig. 29) are prepared from drums cut as described for “drumsticks.”



Figure 29. Boneless-skinless drums. (Photo No. 96-CS-1500)



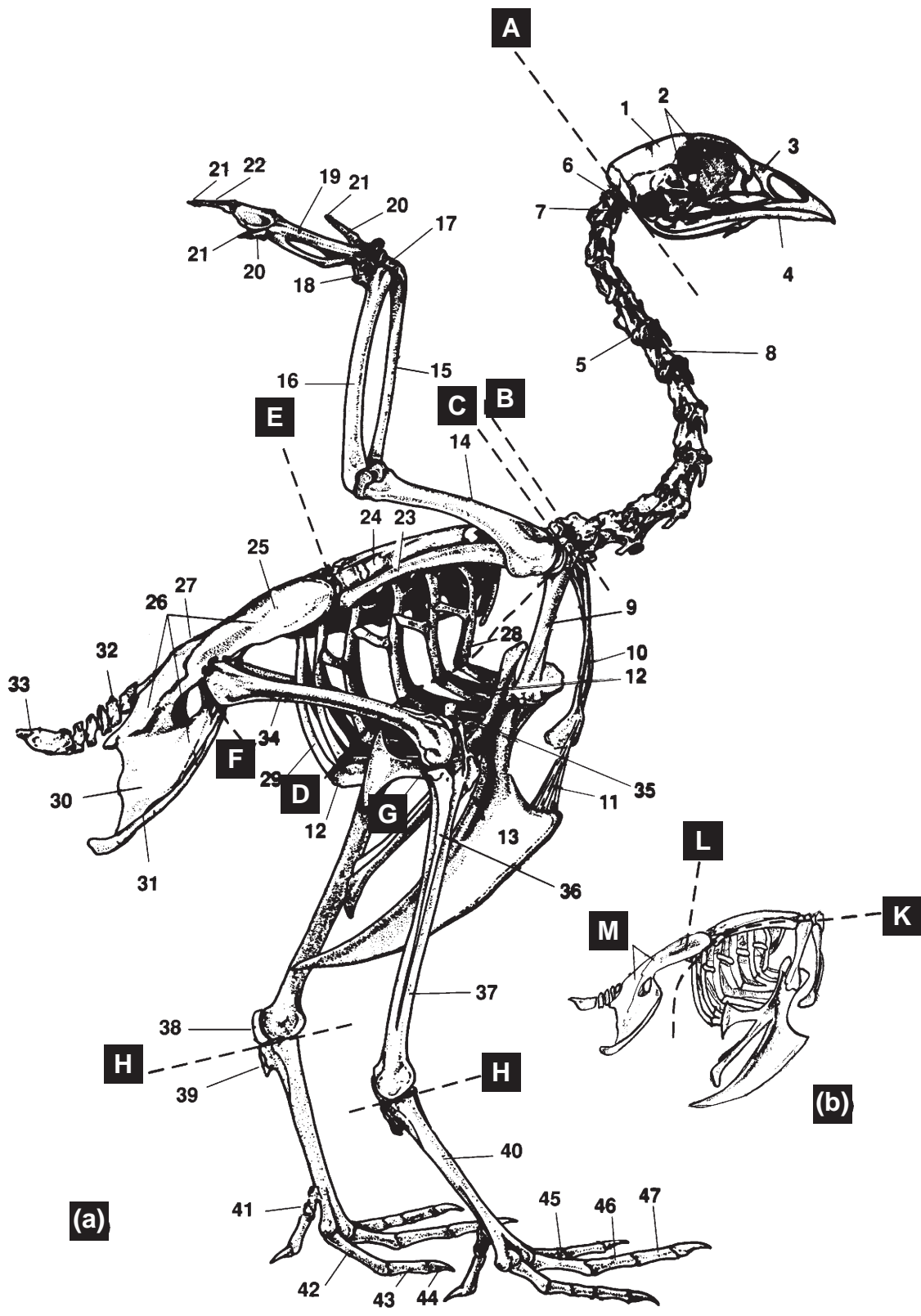


Figure 30. Skeleton of a chicken. (Negative No. 89BW0137)

**Figure 30(a). Whole chicken skeleton.**

Bones are identified with the numbers listed below.

<b>Head</b>	<b>Wing</b>	<b>Tail</b>
1 Vertebral cranium (lateral parietal crest)	14 Humerus	32 Coccygeal vertebrae
2 Orbital fossa	15 Radius	33 Urostyle - Pygostyle
3 Visceral cranium (lateral ramus of nasal bone)	16 Ulna	<b>Leg</b>
4 Mandibula (mandible, lower jaw)	17 Radial carpal	34 Femur
<b>Neck</b>	18 Ulnar carpal	35 Patella - Knee cap
5 Region of the ligamentum nuchae (main ligament of the neck)	19 Third carpometacarpal	36 Fibula
6 Atlas - First cervical	20 First phalanges	37 Tibia
7 Axis - First cervical	21 Distal phalanges	38 Hypotarsal sesamoid
8 Cervical vertebrae	22 Second phalanx, third digit	<b>Foot</b>
<b>Breast</b>	<b>Back</b>	39 Hypotarsal ridge
9 Coracoid	23 Scapula	40 Tarsometatarsus (second, third, and fourth)
10 Clavicle - Wishbone	24 Thoracic vertebrae	41 First metatarsal
11 Hypocleidial ligament	25 Ilium	42 First phalanx, second digit
12 Sternal rib portion	26 Os innominatum	43 Second phalanx, second digit
13 Sternum - Keelbone	27 Synsacrum	44 Distal phalanx, second digit
	28 Second rib	45 First phalanx, third digit
	29 Vertebral rib portion	46 Second phalanx, third digit
	30 Ischium	47 Third phalanx, third digit
	31 Pubium - Pinbone	

Points where parts are cut in accordance with USDA regulations are identified with the letters listed below.

- A - Head from neck
- B - Neck from breast/back
- C - Wing from breast
- D - Breast from back
- E - Front half of back from back half of back
- F - Leg from back
- G - Thigh from drumstick
- H - Drumstick from foot

**Figure 30(b). Breast and back of chicken skeleton.**

Rib and pelvic meat areas, and point to cut breast with ribs, are identified with the letters listed below.

- K - Breast with rib cut
- L - Oyster meat area
- M - Pelvic meat area

## IV. U.S. Classes, Standards, and Grades for Poultry

This section contains (A) classes of ready-to-cook poultry; (B) standards for quality of ready-to-cook individual carcasses and parts, with tables summarizing the standards (tables 18-20) and a guide for estimating the relative size of exposed flesh or discolorations (fig. 31); (C) standards for quality of specified poultry food products; and (D) grades for ready-to-cook poultry and specified poultry food products.

### A. Classes of Ready-to-Cook Poultry

The different species of poultry are the “kinds” of poultry, such as chickens, turkeys, ducks, geese, guineas, and pigeons. Each kind of poultry is divided into classes which have essentially the same physical characteristics, such as fryers or hens. These physical characteristics are associated with the age and sex of the bird. The class, if questionable, can best be determined when the bird is prepared into ready-to-cook form, by complete examination of the physical characteristics. This must be done before evaluating the quality factors. The classes are generally used in all segments of the poultry industry.

#### Chickens:

##### Rock Cornish Game Hen or Cornish Game Hen

A Rock Cornish game hen or Cornish game hen is a young immature chicken (usually less than 5 weeks of age) of either sex with a ready-to-cook weight of not more than 2 pounds.

##### Broiler or Fryer

A broiler or fryer is a young chicken (usually less than 10 weeks of age) of either sex that is tender-meated with soft, pliable, smooth-textured skin and flexible breastbone cartilage.

##### Roaster or Roasting Chicken

A roaster or roasting chicken is a young chicken (usually less than 12 weeks of age) of either sex that is tender-meated with soft, pliable, smooth-textured skin and breastbone cartilage that is somewhat less flexible than that of a broiler or fryer.

##### Capon

A capon is a surgically neutered male chicken (usually less than 4 months of age) that is tender-meated with soft, pliable, smooth-textured skin.

##### Hen, Fowl, Baking Chicken or Stewing Chicken

A hen, fowl, baking chicken, or stewing chicken is an adult female chicken (usually more than 10 months of age) with meat less tender than that of a roaster or roasting chicken and with a nonflexible breastbone tip.

#### Cock or Rooster

A cock or rooster is an adult male chicken with coarse skin, toughened and darkened meat, and nonflexible breastbone tip.

#### Turkeys:

##### Fryer-Roaster Turkey

A fryer-roaster turkey is a young immature turkey (usually less than 12 weeks of age) of either sex that is tender-meated and with soft, pliable, smooth-textured skin and flexible breastbone cartilage. For labeling purposes, it may also be designated a “young turkey.”

##### Young Turkey

A young turkey is a turkey (usually less than 6 months of age) of either sex that is tender-meated and with soft, pliable, smooth-textured skin and breastbone cartilage that is less flexible than that of a fryer-roaster turkey.

##### Yearling Turkey

A yearling turkey is a fully matured turkey (usually less than 15 months of age) of either sex that is reasonably tender-meated and with reasonably smooth-textured skin.

##### Mature or Old (Hen or Tom) Turkey

A mature turkey or old turkey is an adult turkey (usually more than 15 months of age) of either sex with coarse skin and toughened flesh. Sex designation is optional.

#### Ducks:

##### Duckling

A duckling is a young duck (usually less than 8 weeks of age) of either sex that is tender-meated and has a soft bill and soft windpipe.

##### Roaster Duck

A roaster duck is a young duck (usually less than 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.

##### Mature Duck or Old Duck

A mature duck or an old duck is an adult duck (usually more than 6 months of age) of either sex with toughened flesh, a hardened bill, and a hardened windpipe.

#### Geese:

##### Young Goose

A young goose is an immature goose of either sex, that is tender-meated and has a windpipe that is easily dented.

##### Mature Goose or Old Goose

A mature goose or old goose is an adult goose of either sex that has toughened flesh and a hardened windpipe.

**Guineas:**

**Young Guinea**

A young guinea is an immature guinea of either sex, that is tender-meated, and has a flexible breastbone cartilage.

**Mature Guinea or Old Guinea**

A mature guinea or old guinea is an adult guinea of either sex that has toughened flesh and a nonflexible breastbone.

**Pigeons:**

**Squab**

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

**Pigeon**

A pigeon is a mature pigeon of either sex, with coarse skin and toughened flesh.

**B. Standards for Quality of Ready-to-Cook Individual Carcasses and Parts**

**Carcasses and Parts—A Quality:**

**Conformation (shape)** 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.

**Fleshing (amount of meat)** The carcass has a well-developed covering of flesh according to its kind, class, and part.

- (1) 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.
- (2) The leg is well fleshed and moderately thick and wide at the knee and hip joint area, and has a well-rounded, plump appearance with the flesh carrying well down toward the hock and upward to the hip joint area.
- (3) The drumstick is well fleshed and moderately thick and wide at the knee joint, and has a well-rounded, plump appearance with the flesh carrying well down toward the hock.
- (4) The thigh is well to moderately fleshed.
- (5) The wing is well to moderately fleshed.

**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 in the areas between the heavy feather tracts.

**Defeathering** The carcass or part shall have a clean appearance, especially on the breast and legs, and shall be free of protruding feathers and hairs. A carcass or part shall be considered free from protruding feathers when it complies with the tolerances specified in the following table:

**Table 1. Feathers, A Quality.**

Grade A	Feathers permitted		
	Length	Carcass	Parts
Turkeys	Less than or equal to 3/4 inch	4	2
Ducks and geese <sup>1</sup>	Less than or equal to 1/2 inch	8	4
All other poultry	Less than or equal to 1/2	4	2

<sup>1</sup>Hair or down is permitted on the carcass or part, provided the hair or down is less than 3/16 inch in length, and is scattered so that the carcass or part has a clean appearance, especially on the breast and legs.

**Exposed Flesh** Exposed flesh resulting from cuts, tears, and missing skin.

(1) The carcass may have exposed flesh due to cuts, tears, and missing skin, provided the aggregate area of all exposed flesh does not exceed an area equivalent to the area of a circle of the diameter specified in the following table:

**Table 2. Exposed Flesh, Carcass, A Quality.**

Carcass weight		Maximum aggregate area permitted	
Minimum	Maximum	Breast and legs	Elsewhere
None	2 lb.	1/4 in.	1 in.
Over 2 lb.	6 lb.	1/4 in.	1 1/2 in.
Over 6 lb.	16 lb.	1/2 in.	2 in.
Over 16 lb.	None	1/2 in.	3 in.

(2) Large carcass parts, specifically halves, front halves, or rear halves, may have exposed flesh due to cuts, tears, and missing skin, provided the aggregate area of all exposed flesh does not exceed an area equivalent to the area of a circle of the diameter specified in the following table:

**Table 3. Exposed Flesh, Large Carcass Parts, A Quality.**

Carcass weight		Maximum aggregate area permitted	
Minimum	Maximum	Breast and legs	Elsewhere
None	2 lb.	1/4 in.	1/2 in.
Over 2 lb.	6 lb.	1/4 in.	3/4 in.
Over 6 lb.	16 lb.	1/2 in.	1 in.
Over 16 lb.	None	1/2 in.	1 1/2 in.

(3) Other parts may have exposed flesh due to cuts, tears, and missing skin, provided the aggregate area of all exposed flesh does not exceed an area equivalent to the area of a circle of the diameter specified in the following table:

**Table 4. Exposed Flesh, Other Parts, A Quality.**

Carcass weight	Maximum aggregate area permitted	
Minimum	Maximum	Parts
None	2 lb.	1/4 in.
Over 2 lb.	6 lb.	1/4 in.
Over 6 lb.	16 lb.	1/2 in.
Over 16 lb.	None	1/2 in.

(4) For all parts, trimming of the skin along the edge is allowed, provided that at least 75 percent of the normal skin cover associated with the part remains attached, and further provided that the remaining skin uniformly covers the outer surface in a manner that does not detract from the appearance of the part.

(5) In addition, the carcass or part may have cuts or tears that do not expand or significantly expose flesh, provided the aggregate length of all such cuts and tears does not exceed a length tolerance using the dimensions listed in the following table:

**Table 5. Cuts and Tears, A Quality.**

Carcass weight		Maximum aggregate length permitted	
Minimum	Maximum	Breast, legs, and parts	Elsewhere on carcass
None	2 lb.	1/4 in.	1 in.
Over 2 lb.	6 lb.	1/4 in.	1 1/2 in.
Over 6 lb.	16 lb.	1/2 in.	2 in.
Over 16 lb.	None	1/2 in.	3 in.

**Disjointed and Broken Bones and Missing Parts**

(1) Parts are free of broken bones. Parts are free of disjointed bones except that thighs with back portions, legs, or leg quarters may have the femur disjointed from the hip joint. The carcass is free of broken bones and has not more than one disjointed bone.

(2) The wing tips may be removed at the joint, and 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 both wings are so treated. The tail may be removed at the base.

(3) Cartilage separated from the breastbone is not considered as a disjointed or broken bone.

**Discolorations** The requirements contained in this section are applicable to discolorations of the skin and flesh of poultry, and the flesh of skinless poultry, as described in this manual under III, C, Skin Discolorations, Flesh Blemishes, and Bruises.

- (1) The carcass, parts derived from the carcass, or large carcass parts may have slight discolorations, provided the discolorations do not detract from the appearance of the product.
- (2) The carcass may have lightly shaded areas of discoloration, provided the aggregate area of all discolorations does not exceed an area equivalent to the area of a circle of the diameter specified in the following table. Evidence of incomplete bleeding, such as more than an occasional slightly reddened feather follicle, is not permitted.

**Table 6. Discolorations, Carcass, Lightly Shaded Areas, A Quality.**

Carcass weight		Maximum aggregate area permitted	
Minimum	Maximum	Breast and legs	Elsewhere
None	2 lb.	3/4 in.	1 1/4 in.
Over 2 lb.	6 lb.	1 in.	2 in.
Over 6 lb.	16 lb.	1 1/2 in.	2 1/2 in.
Over 16 lb.	None	2 in.	3 in.

- (3) The carcass may have moderately shaded areas of discoloration and discolorations due to flesh bruising, provided:
  - (i) They are not on the breast or legs, except for the area adjacent to the hock joint;
  - (ii) They are free of clots; and
  - (iii) They do not exceed an aggregate area equivalent to the area of a circle of the diameter specified in the following table:

**Table 7. Discolorations, Carcass, Moderately Shaded Areas, A Quality.**

Carcass weight		Maximum aggregate area permitted	
Minimum	Maximum	Hock area of legs	Elsewhere on carcass
None	2 lb.	1/4 in.	5/8 in.
Over 2 lb.	6 lb.	1/2 in.	1 in.
Over 6 lb.	16 lb.	3/4 in.	1 1/4 in.
Over 16 lb.	None	1 in.	1 1/2 in.

- (4) Parts, other than large carcass parts, may have lightly shaded areas of discoloration, provided the aggregate area of all discolorations does not exceed an area equivalent to the area of a circle of the diameter specified in the following table. Evidence of incomplete bleeding, such as more than an occasional slightly reddened feather follicle, is not permitted.

**Table 8. Discolorations, Parts, Lightly Shaded, A Quality.**

Carcass weight		Maximum aggregate area permitted
Minimum	Maximum	Parts
None	2 lb.	1/2 in.
Over 2 lb.	6 lb.	3/4 in.
Over 6 lb.	16 lb.	1 in.
Over 16 lb.	None	1 1/4 in.

- (5) Parts, other than large carcass parts, may have moderately shaded areas of discoloration and discolorations due to flesh bruising, provided:
  - (i) They are not on the breast or legs, except for the area adjacent to the hock joint;
  - (ii) They are free of clots; and
  - (iii) They do not exceed an aggregate area equivalent to the area of a circle of the diameter specified in the following table:



**Table 9. Discolorations, Parts, Moderately Shaded, A Quality.**

Carcass weight		Maximum aggregate area permitted
Minimum	Maximum	Parts
None	2 lb.	1/4 in.
Over 2 lb.	6 lb.	3/8 in.
Over 6 lb.	16 lb.	1/2 in.
Over 16 lb.	None	5/8 in.

(6) Large carcass parts, specifically halves, front halves, or rear halves, may have lightly shaded areas of discoloration, provided the aggregate area of all discolorations does not exceed an area equivalent to the area of a circle of the diameter specified in the following table:

**Table 10. Discolorations, Large Carcass Parts, Lightly Shaded, A Quality.**

Carcass weight		Maximum aggregate area permitted	
Minimum	Maximum	Breast and legs	Elsewhere
None	2 lb.	1/2 in.	1 in.
Over 2 lb.	6 lb.	3/4 in.	1 1/2 in.
Over 6 lb.	16 lb.	1 in.	2 in.
Over 16 lb.	None	1 1/4 in.	1 1/2 in.

(7) Large carcass parts, specifically halves, front halves, or rear halves, may have moderately shaded areas of discoloration and discolorations due to flesh bruising, provided:

- (i) They are not on the breast or legs, except for the area adjacent to the hock joint;
- (ii) They are free of clots; and
- (iii) They do not exceed an aggregate area equivalent to the area of a circle of the diameter specified in the following table:

**Table 11. Discolorations, Large Carcass Parts, Moderately Shaded, A Quality.**

Carcass weight		Maximum aggregate area permitted	
Minimum	Maximum	Hock area of legs	Elsewhere
None	2 lb.	1/4 in.	1/2 in.
Over 2 lb.	6 lb.	3/8 in.	3/4 in.
Over 6 lb.	16 lb.	1/2 in.	1 in.
Over 16 lb.	None	5/8 in.	1 1/4 in.

**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 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:

- (1) Slight darkening over the back and drumsticks, provided the frozen bird or part has a generally bright appearance;
- (2) Occasional pockmarks due to drying of the inner layer of skin (derma) (however, none 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);
- (3) Occasional small areas of clear, pinkish, or reddish colored ice;
- (4) Occasional small areas of dehydration, white to light grey in color, on the flesh of skinless carcasses, parts, or specified poultry food products not to exceed the permitted aggregate area for discolorations as contained in this manual under IV, B, Discolorations.

**Backs** Backs of A quality shall meet all applicable provisions of this section pertaining to parts, and shall include the meat contained on the ilium (oyster meat), pelvic meat and skin, and vertebral ribs and scapula with meat and skin.

**Carcasses and Parts—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, which do not materially affect the distribution of flesh or the appearance of the carcass or part.

**Fleshing** The carcass has a moderate covering of flesh according to its kind, class, and part.

- (1) The breast has a substantial covering of flesh, with the flesh carrying up to the crest of the breastbone sufficiently to prevent a thin appearance.
- (2) The leg is fairly thick and wide at the knee and hip joint area and has sufficient flesh to prevent a thin appearance.
- (3) The drumstick has a sufficient amount of flesh to prevent a thin appearance, with the flesh carrying fairly well down toward the hock.
- (4) The thigh has a sufficient amount of flesh to prevent a thin appearance.
- (5) The wing has a sufficient amount of flesh to prevent a thin appearance.

**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.

**Defeathering** The carcass or part may have a few scattered protruding feathers and hairs. A carcass or part shall be considered to have not more than a few scattered protruding feathers when it complies with the tolerances specified in the following table:

**Table 12. Feathers, B Quality.**

Grade B	Feathers permitted		
	Length	Carcass	Parts
Turkeys	Less than or equal to 3/4 inch	6	3
Ducks and geese <sup>1</sup>	Less than or equal to 1/2 inch	10	5
All other poultry	Less than or equal to 1/2	6	3

<sup>1</sup>Hair or down is permitted on the carcass or part, provided the hair or down is less than 3/16 inch in length, and is scattered so that the carcass or part has a clean appearance, especially on the breast and legs.

**Exposed Flesh** The carcass may have exposed flesh, provided that no part on the carcass has more than one-third of the flesh exposed. A part may have no more than one-third of the flesh normally covered by skin exposed.

**Disjointed and Broken Bones, Missing Parts, and Trimming**

- (1) 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.
- (2) Parts of the wing beyond the second joint may be removed at a joint. The tail may be removed at the base.
- (3) Slight trimming of the carcass is permitted provided the meat yield of any part on the carcass is not appreciably affected. A moderate amount of meat may be trimmed around the edge of a part to remove defects. The back may be trimmed in an area not wider than the base of the tail to the area halfway between the base of the tail and the hip joints.

**Discolorations of the Skin and Flesh**

- (1) Discolorations are limited to moderately shaded areas and the carcass or part is free of serious defects. Evidence of incomplete bleeding shall be no more than slight. Discoloration due to flesh bruising shall be free of clots and may not exceed one-half the total aggregate area of permitted discoloration.
- (2) For a carcass, the aggregate area of all discolorations shall not exceed an area equivalent to the area of a circle of the diameter specified in the following table:

**Table 13. Discolorations, Carcass, B Quality.**

Carcass weight		Maximum aggregate area permitted	
Minimum	Maximum	Breast and legs	Elsewhere
None	2 lb.	1 1/4 in.	2 1/4 in.
Over 2 lb.	6 lb.	2 in.	3 in.
Over 6 lb.	16 lb.	2 1/2 in.	4 in.
Over 16 lb.	None	3 in.	5 in.

(3) For a part, the aggregate area of all discolorations for a part shall not exceed an area equivalent to the area of a circle having a diameter specified in the following table:

**Table 14. Discolorations, Parts, B Quality.**

Carcass weight		Maximum aggregate area permitted
Minimum	Maximum	Breast, legs, and parts
None	2 lb.	3/4 in.
Over 2 lb.	6 lb.	1 in.
Over 6 lb.	16 lb.	1 1/2 in.
Over 16 lb.	None	1 3/4 in.

(4) Large carcass parts, specifically halves, front halves, or rear halves, may have areas of discoloration, provided the aggregate area does not exceed an area equivalent to the area of a circle of the diameter specified in the following table:

**Table 15. Discolorations, Large Carcass Parts, B Quality.**

Carcass weight		Maximum aggregate area permitted	
Minimum	Maximum	Breast and legs	Elsewhere
None	2 lb.	1 in.	1 1/4 in.
Over 2 lb.	6 lb.	1 1/2 in.	1 3/4 in.
Over 6 lb.	16 lb.	2 in.	2 1/2 in.
Over 16 lb.	None	2 1/2 in.	3 in.

**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.

**Backs** Backs of B quality shall meet all applicable provisions of this section pertaining to parts, and shall include either the meat contained on the ilium (oyster meat) and meat and skin from the pelvic bones, or the vertebral ribs and scapula with meat and skin.

**Carcasses and Parts—C Quality:**

(a) A part that does not meet the requirements for A or B quality may be of C quality if the flesh is substantially intact.

(b) The carcass or part may have a scattering of protruding feathers and hairs. A carcass or part shall be considered to have not more than a scattering of protruding feathers when it complies with the tolerances specified in the following table:

**Table 16. Feathers, C Quality.**

Grade C	Feathers permitted		
	Length	Carcass	Parts
Turkeys	Less than or equal to 3/4 inch	8	4
Ducks and geese <sup>1</sup>	Less than or equal to 1/2 inch	12	6
All other poultry	Less than or equal to 1/2	8	4

<sup>1</sup>Hair or down is permitted on the carcass or part, provided the hair or down is less than 3/16 inch in length, and is scattered so that the carcass or part has a clean appearance, especially on the breast and legs.

(c) A carcass that does not meet the requirements for A or B quality may be C quality. Both wings may be removed or neatly trimmed. Trimming of the breast and legs is permitted, but not to the extent that the normal meat yield is materially affected. The back may be trimmed in an area not wider than the base of the tail and extending from the tail to the area between the hip joints.

(d) Backs of C quality shall include all the meat and skin from the pelvic bones, except that the meat contained on the ilium (oyster meat) may be removed. The vertebral ribs and scapula with meat and skin and the backbone located anterior (forward) of the ilia bones may also be removed (front half of back).

**C. Standards for Quality of Specified Poultry Food Products**

**Poultry Roast—A Quality:**

This standard applies to raw poultry products labeled in accordance with the poultry inspection regulations as ready-to-cook “Roasts” or similar descriptive terminology.

- (a) The deboned poultry meat used in the preparation of the product shall be from young poultry.
- (b) Bones, tendons, cartilage, bruises, and blood clots shall be removed from the meat.
- (c) The roast has a clean appearance and is free of protruding feathers and hairs. It is considered free of protruding feathers if it complies with the tolerances for an A-quality poultry part as specified in table 1.
- (d) Skin for covering a roast may include the skin covering the crop area and the neck skin up to the whisker if the fatty blubber, spongy fat, and membranes have been removed from these areas.
- (e) (1) Slight discolorations are permitted on the skin or flesh provided the discoloration does not detract from the appearance of the product. Other discolorations are limited to lightly shaded areas of discolorations that do not exceed the total aggregate area of permitted discoloration as described in this section.  
  
(2) The aggregate area of all lightly shaded discolorations for a poultry roast shall not exceed an area equivalent to the area of a circle of the diameter specified in the following table:

**Table 17. Discolorations, Poultry Roast, A Quality.**

Roast weight		Maximum aggregate area permitted
Minimum	Maximum	
None	2 lb.	3/4 in.
Over 2 lb.	6 lb.	1 in.
Over 6 lb.	16 lb.	1 1/2 in.
Over 16 lb.	None	2 in.

- (f) Fifty percent or more of the outer surface of the product shall be covered with skin, whether attached to the meat or used as a wrap. Skin covering may overlap without limit in all areas provided the fatty tissue has been removed from the sternal and pectoral feather tracts.

The combined weight of the skin and fat used to cover the outer surface and used as a binder shall not exceed 15 percent of the total net weight of the product.

- (g) The product shall be fabricated in such a manner that it can be sliced after cooking and each slice can be served with minimal separation.
- (h) Seasoning or flavor enhancers, if used, shall be uniformly distributed.
- (i) Product shall be fabricated or tied in such a manner that it will retain its shape after defrosting and cooking.
- (j) Packaging shall be neat and attractive.
- (k) Product shall be practically free of weepage after packaging and/or freezing, and if frozen, shall have a bright, desirable color.
- (l) Product packaged in an oven-ready container shall meet all the requirements of paragraphs (a) through (k) of this section, except that with respect to skin covering, the exposed surface of the roast need not be covered with skin. If skin is used to cover the exposed surface, it may be whole or emulsified. In addition, for roasts packaged in oven-ready containers, comminuted (mechanically deboned) meat may be substituted in part for skin, but may not exceed 8 percent of the total weight of the product.

**Boneless Poultry Breast, Thigh, and Tenderloin —A Quality:**

These standards apply to raw poultry products labeled as ready-to-cook boneless poultry breasts, thighs, or tenderloins or as ready-to-cook boneless poultry breast fillets or thigh fillets, or with words of similar import.

- (a) The breast or thigh shall be cut as specified in Section III, D, of this manual.
- (b) The bone or bones shall be removed in a neat manner without undue mutilation of adjacent muscle.
- (c) With skin, the breast or thigh shall meet A quality requirements for ready-to-cook poultry parts for defeathering, exposed flesh, and discolorations, and shall be free of tendons and cartilage.
- (d) Skinless breast, thighs, or tenderloins shall be free of cartilage, blood clots, bruises, tendons (except for tenderloins), and discolorations other than slight discolorations, provided they do not detract from the appearance of the product. Minor flesh abrasions due to preparation techniques are permitted.
- (e) Trimming is permitted around the outer edges of whole breasts, half breasts, and thighs provided the trimming results in at least one-fourth of the breast or one-half of the thigh remaining intact and further, must result in a portion that approximates the same symmetrical appearance of the original part. Trimming must result in a smooth outer surface with no angular cuts, tears, or holes in the meat portion of the product. Trimming of the inner muscle surface is permitted provided it results in a relatively smooth appearance.

**Skinless Carcasses and Parts — A Quality:**

The standards of quality contained in this section are applicable to raw ready-to-cook whole poultry carcasses and parts.

- (a) The parts shall be cut as specified in Section III, D, of this manual.
- (b) The skin shall be removed in a manner without undue mutilation of adjacent muscle. Minor flesh abrasions due to preparation techniques are permitted.
- (c) Skinless carcasses or parts shall meet A quality ready-to-cook requirements for conformation, fleshing, disjointed and broken bones and missing parts, and discoloration.

**D. Grades for Ready-to-Cook Poultry and Specified Poultry Food Products**

**U.S. Consumer Grades for Ready-to-Cook Poultry and Specified Poultry Food Products:**

**U.S. Grade A**

A lot of ready-to-cook poultry, parts, or poultry food products consisting of one or more ready-to-cook carcasses or parts, or individual units of poultry food products of the same kind and class, each of which conforms to the requirements for A quality, may be designated as U.S. Grade A.

**U.S. Grade B**

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, may be designated as U.S. Grade B.

**U.S. Grade C**

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, may be designated as U.S. Grade C.

**Table 18. Ready-to-Cook Poultry - A Quality**  
**Summary of Specifications for Standards of Quality for Individual Carcasses and Parts**

Effective March 6, 1995

(Not All Inclusive) (Minimum Requirements and Maximum Defects Permitted)

		<b>A Quality</b>					
<b>Conformation:</b> Breastbone Back Legs and Wings		Normal Slight curve or dent Slight curve Normal					
<b>Fleshing:</b>		Well fleshed, considering kind and class					
<b>Fat Covering:</b>		Well developed layer – especially between heavy feather tracts					
<b>Defeathering:</b> Protruding feathers (Feather length)		<b>Turkeys</b> (less than or equal to 3/4 in.) Carcass                      Parts		<b>Ducks and Geese</b> <sup>1</sup> (less than or equal to 1/2 in.) Carcass                      Parts		<b>All Other Poultry</b> (less than or equal to 1/2 in.) Carcass                      Parts	
		4	2	8	4	4	2
<b>Exposed Flesh:</b> <sup>2</sup> Weight Range		<b>Carcass</b>		<b>Large Carcass Parts</b> <sup>3</sup> (halves, front and rear halves)		<b>Other Parts</b> <sup>3</sup>	
Minimum	Maximum	Breast and Legs	Elsewhere	Breast and Legs	Elsewhere		
None	2 lbs.	1/4 in.	1 in.	1/4 in.	1/2 in.	1/4 in.	
Over 2 lbs.	6 lbs.	1/4 in.	1 1/2 in.	1/4 in.	3/4 in.	1/4 in.	
Over 6 lbs.	16 lbs.	1/2 in.	2 in.	1/2 in.	1 in.	1/2 in.	
Over 16 lbs.	None	1/2 in.	3 in.	1/2 in.	1 1/2 in.	1/2 in.	
<b>Discolorations:</b> Carcass		<b>Lightly Shaded</b>			<b>Moderately Shaded</b> <sup>4</sup>		
		Breast and Legs	Elsewhere	Hock of leg	Elsewhere		
None	2 lbs.	3/4 in.	1 1/4 in.	1/4 in.	5/8 in.		
Over 2 lbs.	6 lbs.	1 in.	2 in.	1/2 in.	1 in.		
Over 6 lbs.	16 lbs.	1 1/2 in.	2 1/2 in.	3/4 in.	1 1/4 in.		
Over 16 lbs.	None	2 in.	3 in.	1 in.	1 1/2 in.		
<b>Discolorations:</b> Large Carcass Parts (halves, front and rear halves)		<b>Lightly Shaded</b>			<b>Moderately Shaded</b> <sup>4</sup>		
		Breast and Legs	Elsewhere	Hock of leg	Elsewhere		
None	2 lbs.	1/2 in.	1 in.	1/4 in.	1/2 in.		
Over 2 lbs.	6 lbs.	3/4 in.	1 1/2 in.	3/8 in.	3/4 in.		
Over 6 lbs.	16 lbs.	1 in.	2 in.	1/2 in.	1 in.		
Over 16 lbs.	None	1 1/4 in.	2 1/2 in.	5/8 in.	1 1/4 in.		
<b>Discolorations: Other Parts</b>		<b>Lightly Shaded</b>			<b>Moderately Shaded</b> <sup>4</sup>		
None	2 lbs.	1/2 in.			1/4 in.		
Over 2 lbs.	6 lbs.	3/4 in.			3/8 in.		
Over 6 lbs.	16 lbs.	1 in.			1/2 in.		
Over 16 lbs.	None	1 1/4 in.			5/8 in.		
<b>Disjointed and Broken Bones:</b>		Carcass – 1 disjointed and no broken bones Parts – Thighs with back portion, legs, or leg quarters may have femur disjointed from the hip joint. Other parts – none.					
<b>Missing Parts:</b>		Wing tips and tail In ducks and geese, the parts of the wing beyond the second joint may be removed if removed at the joint and both wings are so treated. Tail may be removed at base.					
<b>Freezing Defects:</b>		Slight darkening on back and drumstick. Overall bright appearance. Occasional pock marks due to drying. Occasional small areas of clear, pinkish, or reddish colored ice.					

<sup>1</sup> For ducks and geese, hair or down is permitted on the carcass or part, provided the hair or down is less than 3/16 inch in length, and is scattered so that the carcass or part has a clean appearance, especially on the breast and legs.  
<sup>2</sup> Maximum aggregate area of all exposed flesh. In addition, the carcass or part may have cuts or tears that do not expand or significantly expose flesh, provided the aggregate length of all such cuts and tears does not exceed a length tolerance equal to the permitted dimensions listed above.  
<sup>3</sup> For all parts, trimming of skin along the edge is allowed, provided at least 75 percent of the normal skin cover associated with the part remains attached, and the remaining skin uniformly covers the outer surface and does not detract from the appearance of part.  
<sup>4</sup> Moderately shaded discolorations and discolorations due to flesh bruising are free of clots and limited to areas other than the breast and legs except for the area adjacent to the hock.



Summary of Specifications for Standards of Quality for Individual Carcasses and Parts

(Not All Inclusive) (Minimum Requirements and Maximum Defects Permitted)

		<b>B Quality</b>					
<b>Conformation:</b> Breastbone Back Legs and Wings		Moderate deformities Moderately dented, curved, or crooked Moderately crooked Moderately misshapen					
<b>Fleshing:</b>		Moderately fleshed, considering kind and class					
<b>Fat Covering:</b>		Sufficient fat layer – especially on breast and legs					
<b>Defeathering:</b> Protruding feathers (feather length)		<b>Turkeys</b> (less than or equal to 3/4 in.) Carcass                  Parts		<b>Ducks and Geese <sup>1</sup></b> (less than or equal to 1/2 in.) Carcass                  Parts		<b>All Other Poultry</b> (less than or equal to 1/2 in.) Carcass                  Parts	
		6	3	10	5	6	3
<b>Exposed Flesh:</b> Weight Range Minimum                  Maximum		<b>Carcass</b>			<b>Parts</b>		
None		No part on the carcass (wings, legs, entire back, or entire breast) has more than 1/3 of the flesh exposed			No more than 1/3 of flesh normally covered by skin exposed		
Over 2 lbs.							
Over 6 lbs.							
Over 16 lbs.							
		<b>Carcass</b> Lightly or Moderately Shaded Discolorations					
<b>Discolorations: <sup>2</sup></b> <b>Carcass</b>		<b>Breast and Legs</b>			<b>Elsewhere</b>		
None		1 1/4 in.			2 1/4 in.		
Over 2 lbs.		2 in.			3 in.		
Over 6 lbs.		2 1/2 in.			4 in.		
Over 16 lbs.		3 in.			5 in.		
		<b>Large Carcass Parts</b> Lightly or Moderately Shaded Discolorations					
<b>Discolorations: <sup>2</sup></b> <b>Large Carcass Parts</b> (halves, front and rear halves)		<b>Breast and Legs</b>			<b>Elsewhere</b>		
None		1 in.			1 1/4 in.		
Over 2 lbs.		1 1/2 in.			1 3/4 in.		
Over 6 lbs.		2 in.			2 1/2 in.		
Over 16 lbs.		2 1/2 in.			3 in.		
		<b>Other Parts</b> Lightly or Moderately Shaded Discolorations Breasts, Legs and Parts					
<b>Discolorations: <sup>2</sup></b> <b>Other Parts</b>		3/4 in.					
None		1 in.					
Over 2 lbs.		1 1/2 in.					
Over 6 lbs.		1 3/4 in.					
Over 16 lbs.		2 in.					
		Carcass – 2 disjointed and no broken bones, or 1 disjointed and 1 nonprotruding broken bone. Parts – may be disjointed, no broken bones; wing beyond second joint may be removed at a joint.					
<b>Disjointed and Broken Bones:</b>		Wing tips, 2nd wing joint and tail.					
<b>Missing Parts:</b>		<b>Carcass</b>			<b>Parts</b>		
<b>Trimming:</b>		Slight trimming of the carcass is permitted provided the meat yield of any part on the carcass is not appreciably affected. The back may be trimmed in an area not wider than the base of the tail to the area halfway between the base of the tail and the hip joints.			A moderate amount of meat may be trimmed around the edge of a part to remove defects.		
<b>Freezing Defects:</b>		May lack brightness. Few pockmarks due to drying. Moderate areas showing a layer of clear, pinkish, or reddish colored ice.					

<sup>1</sup> For ducks and geese, hair or down is permitted on the carcass or part, provided the hair or down is less than 3/16 inch in length, and is scattered so that the carcass or part has a clean appearance, especially on the breast and legs.

<sup>2</sup> Discolorations due to flesh bruising shall be free of clots and may not exceed one-half the total aggregate area of permitted discoloration.

Summary of Specifications for Standards of Quality for Individual Carcasses and Parts

(Not All Inclusive) (Minimum Requirements and Maximum Defects Permitted)

		<b>C Quality</b>					
<b>Conformation:</b> Breastbone Back Legs and Wings		Abnormal Seriously curved or crooked Seriously crooked Misshapen					
<b>Fleshing:</b>		Poorly fleshed.					
<b>Fat Covering:</b>		Lacking in fat covering over all parts of carcass					
<b>Defeathering:</b> Protruding feathers (feather length)		<b>Turkeys</b> (less than or equal to 3/4 in.)		<b>Ducks and Geese <sup>1</sup></b> (less than or equal to 1/2 in.)		<b>All Other Poultry</b> (less than or equal to 1/2 in.)	
		Carcass	Parts	Carcass	Parts	Carcass	Parts
		8	4	12	6	8	4
<b>Exposed Flesh:</b> Weight Range Minimum      Maximum		<b>Carcass and Parts</b>					
None		No limit					
Over 2 lbs.							
Over 6 lbs.							
Over 16 lbs.							
<b>Discolorations:</b> Carcass		<b>Carcass</b> Breast, Legs, and Elsewhere					
None		No limit on size, number of areas, or intensity of discolorations and flesh bruises if such areas do not render any part of the carcass unfit for food					
Over 2 lbs.							
Over 6 lbs.							
Over 16 lbs.							
<b>Discolorations:</b> Parts (includes large carcass parts)		<b>Parts</b> Breasts, Legs, and Parts					
None		No limit on size, number of areas, or intensity of discolorations and flesh bruises if such areas do not render any part unfit for food					
Over 2 lbs.							
Over 6 lbs.							
Over 16 lbs.							
<b>Disjointed and Broken Bones:</b>		No limit					
<b>Missing Parts:</b>		Wing tips, wings, and tails. Backs shall include all meat and skin from pelvic bones, except that the meat contained in the ilium (oyster) may be removed. The vertebral ribs and scapula with meat and skin and the backbone located anterior (forward) of ilia bones may also be removed (front half of back).					
<b>Trimming:</b>		<b>Carcass and Parts</b>					
		Trimming of the breast and legs is permitted, but not to the extent that the normal meat yield is materially affected. The back may be trimmed in an area not wider than the base of the tail extending from the tail to the area between the hip joints.					
<b>Freezing Defects:</b>		Numerous pockmarks and large dried areas.					

<sup>1</sup> For ducks and geese, hair or down is permitted on the carcass or part, provided the hair or down is less than 3/16 inch in length, and is scattered so that the carcass or part has a clean appearance, especially on the breast and legs.

Figure 31. Guide for estimating the relative size of exposed flesh or discolorations.

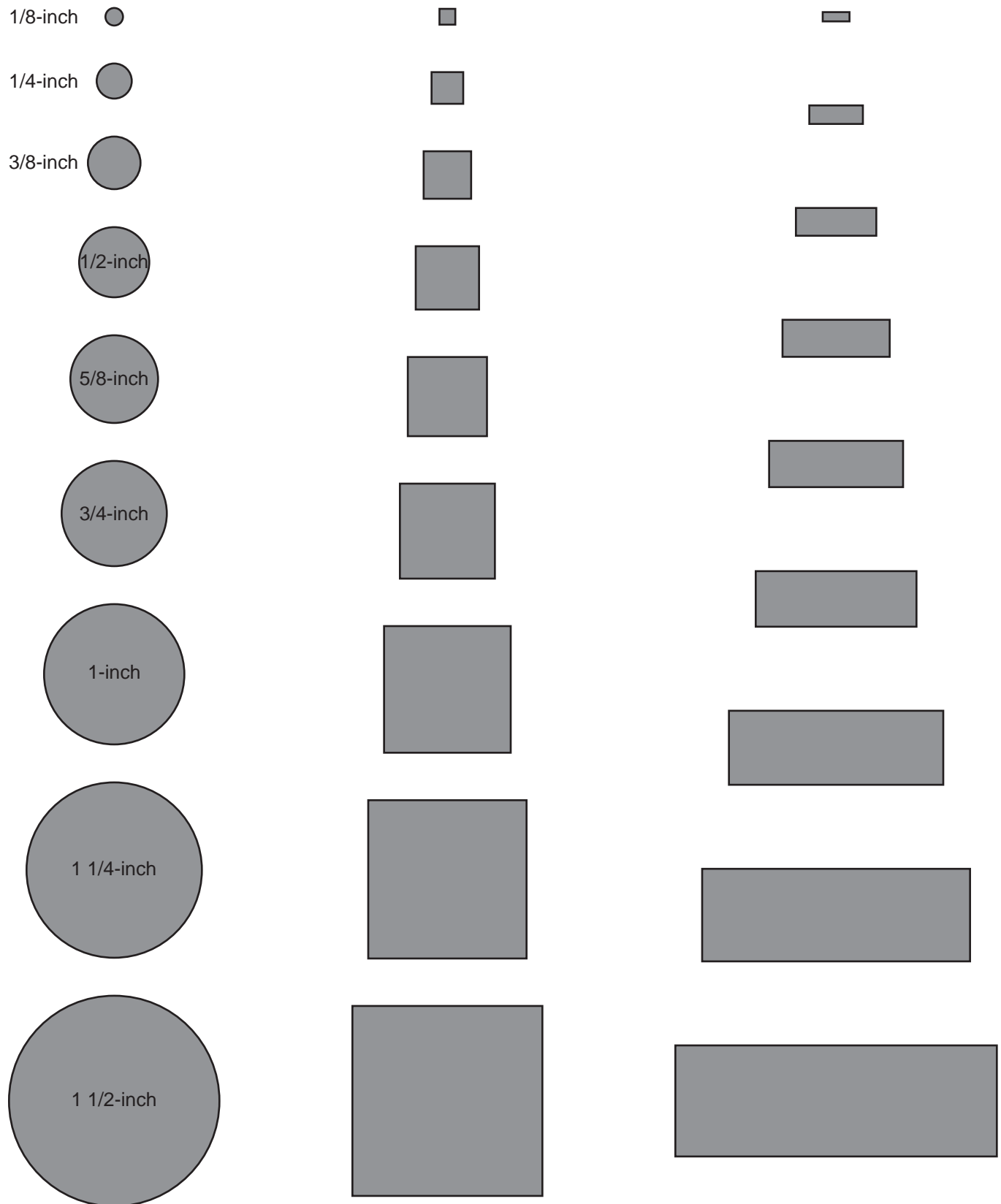
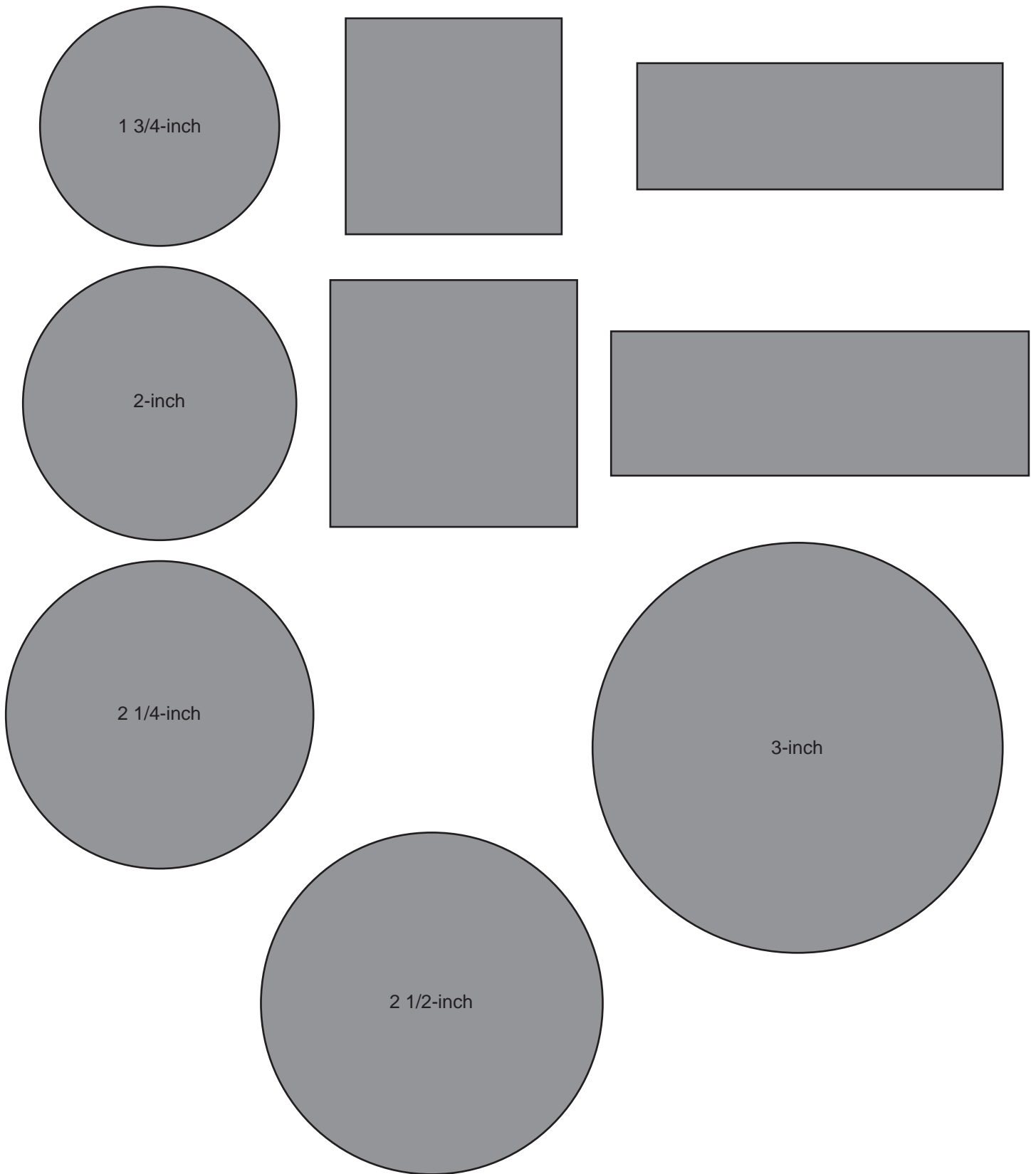


Figure 31. (continued)



## V. Certification to Specific Purchase Requirements

Poultry Programs provide certification services as well as grading services. These certification services involve determining the compliance of poultry products with specific requirements in a purchase or processing contract for volume food buyers. Demand for this type of certification or contract acceptance work continues to expand.

- More and more value-added poultry products are available that look less like whole carcasses and parts. Buyers cannot identify what they have bought as easily as they once could when only ice-packed whole birds were available.
- The food service industry continues to expand, especially fast-food establishments. While each company has its own menu identity, all units within a company usually have uniform food purchase requirements and menu offerings are consistent coast to coast.
- Government purchasers such as the military, hospitals, and schools utilize competitive bidding to help control their food purchasing and processing costs.

Basically, contract acceptance involves the review and acceptance of poultry and poultry products that have specific desirable attributes required by the buyer. These certification-type examinations usually involve quality factors, but may also include various product-specific characteristics. Depending upon the purchase specification, poultry and poultry products can be examined to determine compliance with the requirements for:

- Quality of raw materials, including grade of poultry used;
- Product formulation and percentage of ingredients;
- Processing and fabrication procedures;
- Batter/breading pickup and coverage;
- Product weight, dimension, temperature, freedom from defects;
- Condition of product packaging, such as freedom from cuts, tears, holes;
- Metal detection and lab analysis; and
- Condition of shipping containers and transportation vehicles.

USDA grading specialists can help food purchasers prepare explicit product specifications and can certify that purchasers comply with these specifications. This helps assure purchasers that they are getting what they order, facilitates

competitive bidding, can result in overall higher quality food, permits long-range meal planning, and eliminates controversies between the buyer and seller over compliance of the products.

**VI. Resource Materials Available**

**7 CFR Part 70** **Free**  
**Regulations Governing the Voluntary Grading of Poultry Products and Rabbit Products**  
 Reprint from Code of Federal Regulations.

**AMS 70.200 et seq.** **Free**  
**U.S. Classes, Standards, and Grades for Poultry**  
 This material was removed from the Code of Federal Regulations, effective December 4, 1995.

**AMS-606 - brochure** . . . . . **Free**  
**Video - 7-minute VHS format** . . . . . **For sale**  
**Video - 15-minute VHS format** . . . . . **For sale**  
**Another Pair of Eyes**  
 Poultry certification services for volume food buyers (food manufacturers, food retailers, and food service operators). Videos show Federal graders demonstrating the services they perform and volume food buyers discussing how they utilize and benefit from these services. Brochure outlines information presented in the videos. Call the contact number below for more information about the videos.

**AMS-626** **Free**  
**Buy Quality Poultry with Confidence**  
 Poultry certification services for volume food buyers. Two-page color flyer. 1996.

**AMS-628** **Free**  
**Quality Poultry for Volume Buyers**  
 Poultry certification services for volume food buyers. 12-panel folder. 1997.

**Specifications for Poultry Products** **Free**  
 Guide to poultry certification services and detailed poultry products specifications for food service operators. Loose-leaf, 100+ pages. 1994.

**AH-31** **\$5.25**  
**Poultry-Grading Manual**  
 Guide to the uniform application of U.S. classes, standards, and grades for poultry. Training aid for graders, marketing students, and others. Loose-leaf, 3-hole punched. 1998.

Make check, draft, or money order payable to the Agricultural Marketing Service and mail to the address below.

Contact:  
 USDA, AMS, Stop 0259  
 1400 Independence Ave., SW  
 Washington, D.C. 20250-0259  
 (202) 720-2356, FAX (202) 690-0941

**Poultry Inspection** **Free and for sale**  
 Catalog of publications about mandatory poultry inspection, labeling, plant facilities, equipment, sanitation, and residues.

Contact:  
 Public Affairs Office  
 USDA, FSIS, Stop 3715  
 Washington, DC 20250-3715  
 (202) 690-0351

**Photographs** **For sale**  
 Photos in this Manual.

Contact:  
 Photography Center  
 USDA, OC, Stop 1390  
 Washington, DC 20250-1390  
 (202) 720-4022



# Notes

