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United States Standards for Grades of Lamb, Yearling Mutton, and Mutton Carcasses

Effective date July 6, 1992

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The following is a reprint of the Official United States Standards for the Grades of Lamb, Yearling Mutton, and Mutton Carcasses promulgated by the Secretary of Agriculture under the Agricultural Marketing Act of 1946 (60 Stat. 1087; 7 U.S.C. 1621-1627) as amended and related authority in the annual appropriation acts for the Department of Agriculture. The standards are reprinted with amendments effective July 6, 1992.

Development of the Standards

The official standards for grades of lamb and mutton carcasses were initially promulgated and made effective on February 16, 1931. The standards were amended in October 1940 (Amendment No. 1 to S.R.A. 123) so as to change the grade designations Medium and common to Commercial and Utility, respectively. In April 1951, the official standards were again amended (Amendment No. 2 to S.R.A. 123). By this amendment, Prime and Choice grades were combined and designated as Prime. The Good grade was renamed Choice, which also became the highest grade for carcasses of mutton older than yearlings. The top two-thirds of the Commercial grade was combined with the top two-third of the Utility grade and designated as Utility, thereby eliminating the Commercial grade name. The lower one-third of the Utility grade was combined with the Cull grade and designated as Cull. This amendment also provided for reflecting the minimum requirements for each grade, specified the grade requirements for varying degrees of maturity, and clarified the method for differentiating between lamb, yearling mutton, and mutton carcasses.

In February 1957, the standards for grades of lamb carcasses were amended (Amendment 3 to S.R.A. 123) by reducing the quality requirement for Prime and Choice grade carcasses from more mature lambs, but corresponding reductions in the quality requirements for these grades were not made for carcasses from very young lambs. The quality requirements for the Good grade were increased slightly, particularly for carcasses from young lambs. Quality requirements for the Prime, Choice, and Good grades of yearling mutton and for the Choice and Good grades of mutton were also modified to coordinate them with the changes made in the standards for lamb carcasses. This amendment also made provision for all lamb, yearling mutton, and mutton carcasses with quality indications equivalent to the lower limit of the upper third of the Good Grade to be graded Choice provided they had a development of conformation equivalent to the midpoint of the Choice grade or better. Practically all references to quantity of external and kidney and pelvic fats were also eliminated by this amendment, and other minor changes were made in the phrasing of the standards to clarify them and to facilitate their interpretation. These changes were recommended by an industry-wide committee appointed by the National Wool Growers Association and reflected the results of meetings with various segments of the industry at Salt Lake City, Ft. Worth, Denver, and Washington, D.C.

In March 1960, the standards for grades of lamb and mutton carcasses were amended (Amendment 4 to S.R.A. 123) by reducing both the conformation and quality requirements for the Prime and Choice grades. The conformation requirements for lambs in the Prime and Choice grades were reduced about one-half grade. The quality requirements for very young lambs in both grades were reduced in the Prime grade about a full grade and in the Choice grade about two-thirds of a grade. In addition, a minimum degree of external fat covering was prescribed for the Prime and Choice grades. The emphasis placed on internal factors considered in evaluating quality was decreased by reducing the emphasis on feathering between the ribs, eliminating consideration of overflow fat, and increasing the emphasis on firmness of fat and lean. These changes were developed through meetings with various segments of the industry at Kansas City, Omaha, and Washington, D.C., after some organizations requested that the grading of lamb and mutton carcasses be suspended.

In March 1969, the standards were revised by adopting yield grade standards for optional use with the quality grades. These yield grades standards were based on the results of studies conducted by the Department, several land-grant universities, and the industry on lamb carcass cutability. The information from these studies indicated that carcasses of the same weight and grade differed widely in their yields of trimmed retails cuts and value. These studies also disclosed that differences in cutability resulted primarily from differences in external and internal fatness of the carcasses. At the annual meeting of the American Society of Animal Science in 1967 (J. Anim. Sci. 26:896), the specific research on which the yield grades were based was reported by D.D. Johnston. Based on that research, and at the request of the National Wool Growers Association, the Department proposed the yield grade standards on August 16, 1968, and they became effective on March 1, 1969. Changes also were made in the "Application of Standards" section as need to implement the yield grades and to clarify some other points. No changes were made in the quality grade standards.

In October 1980, the standards and the related regulations for grades of lamb, yearling mutton, and mutton carcasses were amended to provide generally for grading only in carcass form and only in the establishment where the animal was slaughtered or initially chilled. This amendment was adopted to reduce the variation in grading by limiting the conditions under which grading could be accomplished.

In October 1982, the standards were revised to permit carcasses with only one break joint to be classed as lamb if their other maturity characteristics were typical of lamb. In addition, the quality grade standards were simplified by dropping feathering as a quality factor and basing the grade on flank fat streakings in relation to maturity with a minimum firmness specified for each grade. Other changes were: (1) standardization of the quality and conformation compensations, (2) addition of muscling requirements to the conformation descriptions for each grade, and (3) elimination of the Cull grade form lamb and yearling mutton carcasses. These changes resulted form discussions with the National Wool Growers Association whose members felt that the detrimental to their interests. Research conducted for the Department by Texas A&M University in 1966 and 1967 supported their claim and indicated that the emphasis placed on the break joints in classing should be reduced. If also showed that the quality grades could be simplified and at the same time would be improved as predictors of palatability. These changes were officially proposed on June 1, 1982 and became effective on October 17, 1982.

In July 1992, the standards were revised to "couple" the quality and yield grades (require that carcasses be identified for both quality and yield when officially graded), and to require removal of most of the kidney and pelvic fat prior to grading. In addition, leg conformation score was eliminated as a yield grade factor, and the fat thickness range in each yield grade was shifted and narrowed. These changes were initiated in response to request from producers--represented by the American Sheep Industry (ASI) Association--to provide an improved communication tool to efficiently reflect consumers' preferences for lean meat products back to producers. Before the changes were proposed several studies of possible revisions were jointly conducted by the Department, ASI, several land-grant Universities, and several major lamb slaughterers. These studies indicated that grade changes would encourage the production of leaner lambs, and that the revised grades could be accurately applied. The changes were officially proposed on November 20, 1991, and were overwhelmingly supported by all industry segments except lamb feeders and lamb slaughterers and processors. Those two segments of the industry were split on the changes. The revised standards became effective on July 6, 1992.

§54.121 Scope.

These standards for grades of lamb, yearling mutton, and mutton are written primarily in terms of carcasses. However, they also are applicable to the grading of sides. To simplify the phrasing of the standards, the words "carcass" and "carcasses" are used also to mean "side" or "sides."

§54.122 Differentiation between lamb, yearling mutton, and mutton carcasses.

(a) Ovine carcasses are classified as lamb, yearling mutton, or mutton depending upon their evidences of maturity as indicated by the development of their muscular and skeletal systems. Typical lamb carcasses tend to have slightly wide and moderately flat rib bones and a light red color and fine texture of lean. By contrast, typical yearling mutton carcasses have moderately wide rib bones which tend to be flat and a slightly dark red color and slightly coarse texture of lean. Typical mutton carcasses have wide, flat, rib bones and a dark red color and coarse texture of lean.

(b) In the dressing of ovine carcasses, both front cannon bones (trotters) normally are left attached to the carcass although in some instances, one or both trotters may be removed. If present, trotters will terminate in perfect break joints (all ridges forming the break joints are intact and well defined), imperfect break joints, or spool joints. For determining the maturity of ovine carcasses, an imperfect break joint is considered the same as a spool joint and it is assumed that there was a spool joint on any missing trotter. These variations, as indicated by the following guidelines, are important considerations in determining whether a carcass is classed as lamb, yearling mutton, or mutton.

(c) A carcass with perfect break joints on both trotters will be classed lamb or yearling mutton based on its other evidences of maturity.

(d) A carcass with spool joints on both trotters will be classed as yearling mutton or mutton based on its other evidences of maturity. Mutton carcasses always have spool joints on both front trotters.

(e) A carcass which has a perfect break joint on one trotter and has either: (1) A spool joint on the other trotter, or (2) has had the other trotter removed, will be classed as a lamb if its other maturity characteristics are not more advanced than described in the grade specifications as typical of the more mature lamb group. Otherwise, such carcasses will be classed as yearling mutton. Maturity within the lamb class shall be based on the combination of lean and all skeletal characteristics.

(f) Except for the above referenced considerations given to break joints and spool joints, in making other maturity evaluations more consideration is given to the characteristics of the flesh than is given to the characteristics of the skeleton.

§54.123 Application of standards.

(a) *Grade Factors*. (1) The grade of an ovine carcass is based on separate evaluations of two general considerations: Palatability-indicating characteristics of the lean and conformation, herein referred to as "quality," and the estimated percent of closely trimmed (0.10 inch fat or less), semi-boneless and boneless, major retail cuts to be derived from the carcass, herein referred to as "yield." The term "quality" has traditionally been used to refer only to the palatability-indicating characteristics of the lean without reference to conformation. Its use herein to include consideration of conformation is not intended to imply that variations in conformation are either directly or indirectly related to differences in palatability. When officially graded by a Federal meat grader, the grade of an ovine carcass shall consist of a combination of both a quality grade and a yield grade. The yield grade designation may be removed from officially graded ovine carcasses, sides, quarters, wholesale cuts, or combinations of wholesale cuts on which the external fat (natural or trimmed) does not exceed 0.25 inch in thickness at any point. The yield grade designation may be removed from boneless subprimal cuts or retail cuts (bone-in or boneless) without trimming of external fat. In instances where removal of the yield grade designation is permitted, the USDA grade may consist of the quality grade designation only.

(2) The grade standards are written so that the quality and yield grade standards are contained in separate sections. The quality grade section is divided further into three separate sections applicable to lamb, yearling mutton, and mutton carcasses. There are four quality grades within each class -- Prime, Choice, Good, and Utility for lamb and yearling mutton, and Choice, Good, Utility, and Cull for mutton. There are five yield grades applicable to all classes of ovine carcasses, denoted by numbers 1 through 5, with Yield Grade 1 representing the highest degree of cutability.

(3) To be eligible for grading, ovine carcasses cannot have more than 1.0 percent of their carcass weight in kidney and pelvic fat. If more than 1.0 percent of kidney and pelvic fat is present in the carcass naturally, the excess fat must be removed prior to offering it for grading. The fat considered in making this determination includes the kidney knob (kidney and surrounding fat) and the lumbar and pelvic fat in the loin and leg. The amount of these fats is evaluated subjectively and expressed as a percent of the carcass weight. Trimming of external fat for the purpose of altering the yield grade shall be considered a fraudulent or deceptive practice in connection with the services requested for such carcasses. Carcasses that have had external fat or lean removed for Federal meat inspection compliance may be graded only if the official grader

determines that an accurate grade determination can be made. Entire carcasses with more than minor amounts of lean removed from the major wholesale cuts (leg, loin, rack, and shoulder) shall not be eligible for a grade determination. However, the portions of such carcasses not affected by lean removal shall be eligible for grading, provided an accurate grade determination can be made.

(4) Carcasses qualifying for any particular grade may vary with respect to the relative development of their individual grade factors, and there will be carcasses which qualify for a particular grade in which the development of some of these individual grade factors will be more typical of other grades. Because it is impractical to describe the nearly limitless number of such recognizable combinations of characteristics, the standards for each quality and yield grade describe only carcasses which have a relatively similar development of individual factors and which are also representative of the lower limits of each grade. In the quality grade standards, examples of the extent to which superiority in quality may compensate for deficiencies in conformation, and vice versa, are indicated for each grade. In the Prime and Choice grades certain minimum requirements for external fat covering also are indicated.

(b) *Quality grades*. (1) The quality grade of an ovine carcass is based on separate evaluations of two general considerations -- the quality, or the palatability-indicating characteristics of the lean, and the conformation of the carcass.

(2) Conformation is the manner of formation of the carcass with particular reference to the relative development of the muscular and skeletal systems, although it also is influenced to some extent by the quantity and distribution of external finish. However, external fat in excess of that normally left on retail cuts is not considered in evaluating conformation. The conformation descriptions included in each of the grade specifications refer to the thickness of muscling and to an overall degree of thickness and fullness of the carcass. However, carcasses which meet the requirements for thickness of muscling specified for a grade will be considered to have conformation adequate for that grade despite the fact that, because of a lack of fatness, they may not have the overall degree of thickness and fullness described. The conformation of a carcass is evaluated by averaging the conformation of its various component parts, giving consideration not only to the proportion that each cut is of the carcass weight but also to the general desirability of each cut as compared with other cuts. Superior conformation implies a high proportion of edible meat to bone and a high proportion of the weight of the carcass in the more demanded cuts and is reflected in carcasses which are very thickly muscled, very wide and thick in relation to their length, and which have a very plump, full, and well-rounded appearance. Inferior conformation implies a low proportion of edible meat to bone and a low proportion of the weight of the carcass in the more demanded cuts and is reflected in carcasses which are very thinly muscled, very narrow in relation to their length, and which have a very angular, thin, and sunken appearance.

(3) The quality of the lean flesh is best evaluated by consideration of its texture, firmness, and marbling, as observed in a cut surface, in relation to the apparent maturity of the animal from which the carcass was produced. However, in grading ovine carcasses, direct observation of these characteristics usually is not possible. Therefore, the quality of the lean is evaluated indirectly by giving consideration to the quantity of fat streakings within and upon the inside flank muscles in relation to the apparent evidences of maturity. Within each grade, the requirements for flank fat streakings increase progressively with evidences of advancing maturity. To facilitate the application of this principle, the relationship between flank fat streakings, maturity, and quality is

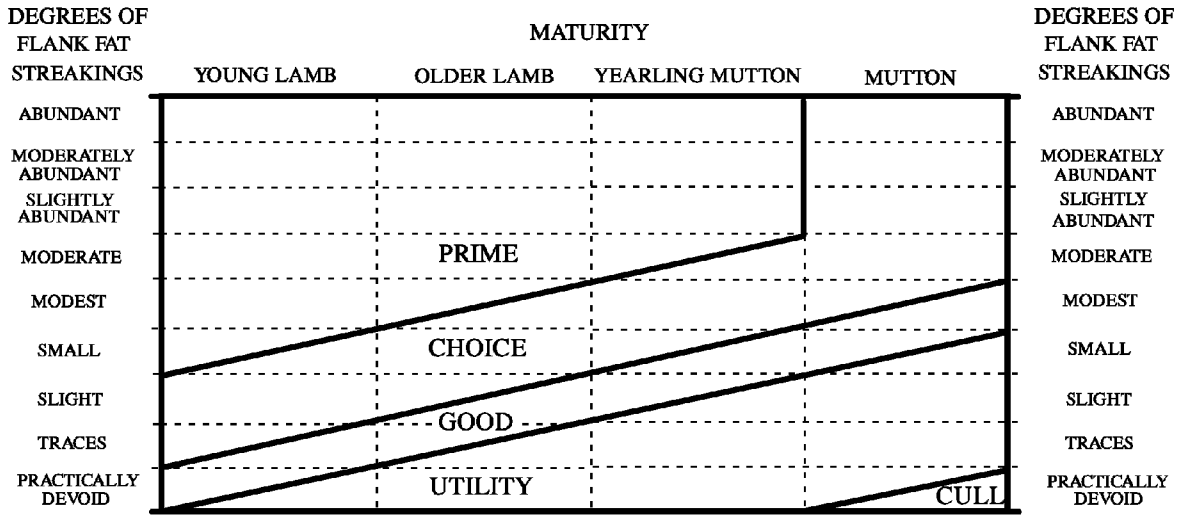

Figure 1

shown in Figure 1. Flank fat streakings are categorized in descending order of quantity as follows: Abundant, moderately abundant, slightly abundant, moderate, modest, small, slight, traces, practically devoid, and devoid. In addition, the standards specify a minimum degrees of firmness of lean flesh and external fat for each grade and a minimum degree of external fatness for carcasses in the Prime and Choice grades. The different degrees of firmness in descending order of firmness are: Extremely firm, tends to be extremely firm, firm, tends to be firm, moderately firm, tends to be moderately firm, slightly firm, tends to be slightly firm, tends to be slightly soft, slightly soft, tends to be moderately soft, moderately soft, soft, and very soft.

(4) The quality standards are intended to apply to all ovine carcasses without regard to the apparent sex condition of the animal at time of slaughter. However, carcasses from males which have thick, heavy necks and shoulders typical of uncastrated males are discounted in quality grade in accord with the extent to which these characteristics are developed. Such discounts may vary from less than one-half grade in carcasses from young lambs in which such characteristics are barely noticeable to as much as two full grades in carcasses from mature rams in which such characteristics are very pronounced.

(c) *Yield grades*. (1) The yield grade of an ovine carcass is based on the amount of external fat present.

(2) The amount of external fat for carcasses with a normal distribution of this fat is evaluated in terms of its actual thickness over the center of the ribeye muscle and is measured perpendicular to the outside surface between the 12th and 13th ribs. On carcasses which do not have a normal

distribution of external fat, the fat thickness measurement over the ribeye may be adjusted, as necessary, to reflect unusual amounts of fat on other parts of the carcass. In determining the amount of this adjustment, particular attention is given to the amount of external fat on those parts where fat is deposited at a faster-than-average rate, particularly the rump, outside of the shoulders, breast, flank, and cod or udder. Thus, in a carcass which is fatter over these parts than is normally associated with the actual fat thickness over the ribeye, the measurement is adjusted upward. Conversely, in a carcass which has less fat over these parts than is normally associated with the actual fat thickness over the ribeye, the measurement is adjusted downward. In many carcasses no such adjustment is necessary; however, an adjustment in the thickness of fat measurement of 0.05 inch is not uncommon. In some carcasses a greater adjustment may be necessary. As a guide in making these adjustments, the standards for each yield grade include an additional related measurement -- body wall thickness, which is measured 5 inches laterally from the middle of the backbone between the 12th and 13th ribs. As the amount of external fat increases, the percent of retail cuts decreases -- each 0.05 inch change in adjusted fat thickness over the ribeye changes the yield grade by one-half of a grade.

(3) When the ribeye is exposed for grading the official grader may estimate or measure the fat thickness, as necessary. On intact ovine carcasses, the official determination of the external fat thickness is made by probing with an approved measuring device. Also, visual evaluations of the fat thickness of intact carcasses may be made at the discretion of the official grader. Because small variations in fat thickness may change the final yield grade significantly, it is essential that an accurate fat thickness evaluation be made. Therefore, official graders are expected to take the time necessary to make accurate measurements when visual evaluations are in doubt. Applicants for grading can facilitate visual evaluations by cutting through the fat down to the lean over the ribeye on at least one side of the carcass after carcasses are properly chilled. Such a cut will greatly enhance both the speed and accuracy of yield grade evaluations.

(4) The adjusted fat thickness range for each yield grade is as follows: Yield Grade 1 -- 0.00 to 0.15 inch; Yield Grade 2 -- 0.16 to 0.25 inch; Yield Grade 3 -- 0.26 to 0.35 inch; Yield Grade 4 -- 0.36 to 0.45 inch; and Yield Grade 5 -- 0.46 inch and greater. For carcass evaluation programs and other purposes when position within a yield grade is desired, each 0.01 inch change in fatness within these ranges would equate to a change of one-tenth of a yield grade. The following equation may be used to convert adjusted fat thickness to yield grade: Yield Grade=0.4+(10 X Adjusted fat thickness, inches).

(5) The yield grade standards for each of the first four yield grades list characteristics of a carcass with descriptions of the amount of external fat normally present on various parts of the carcass. These descriptions are not specific requirements -- they are included only as illustrations of carcasses which are near the borderline between grades. For example, the characteristics listed for Yield Grade 1 represent a carcass which is near the borderline of Yield Grade 1 and Yield Grade 2. These descriptions facilitate the visual determination of the yield grade without making detailed measurements.

§54.124 Specifications for official U.S. standards for grades of lamb carcasses (quality).

(a) *Prime.* (1) Lamb carcasses having minimum conformation qualifications for the Prime

grade tend to be thickly muscled throughout, are moderately wide and thick in relation to their length and have moderately plump and full legs, moderately wide and thick backs, and moderately thick and full shoulders.

(2) Minimum requirements for fat streakings within and upon the inside flank muscles are specified for two maturity groups which cover the entire range of maturity within the lamb class. Typical carcasses from the younger group have moderately narrow, slightly flat rib bones; moderately red and moist and porous break joints; and a slightly dark pink color of inside flank muscles. The minimum degree of flank fat streakings required for such carcasses increases with advancing maturity throughout this group from minimum small to maximum small (see Figure 1).

(3) Typical carcasses from the more mature group have slightly wide, moderately flat rib bones; slightly red but slightly dry and hard break joints; and a light red color of inside flank muscles. The minimum degree of flank fat streakings required increases with advancing maturity throughout this group from minimum modest to maximum modest (see Figure 1).

(4) Regardless of the extent to which the conformation of a carcass may exceed the minimum requirements for Prime, a carcass must have minimum Prime quality to be eligible for the Prime grade. However, a development of quality which is superior to that specified as minimum for the Prime grade may compensate, on an equal basis, for a development of conformation which is inferior to that specified as minimum for Prime as indicated in the following example: A carcass which has evidence of quality equivalent to the mid-point of the Prime grade (one degree of flank fat streakings more than required as the minimum for Prime) may have conformation equivalent to the mid-point of the Choice grade and remain eligible for Prime. However, in no instance may a carcass be graded Prime which has a development of conformation inferior to that specified as minimum for the Choice grade. In addition, to be eligible for Prime, the lean flesh and external fat of lamb carcasses must be not less than tends to be moderately firm. Also, to be eligible for Prime, a carcass must have at least a very thin covering of external fat over the top of the shoulders and the outside of the center parts of the legs, and the back must have at least a thin covering of fat, that is, the muscles of the back may be no more than plainly visible through the fat.

(b) *Choice*. (1) Lamb carcasses having minimum conformation qualifications for the Choice grade are slightly thick muscled throughout, they tend to be slightly wide and thick in relation to their length and tend to have slightly plump and full legs, slightly wide and thick backs, and slightly thick and full shoulders.

(2) Minimum requirements for fat streakings within and upon the inside flank muscles are specified for two maturity groups which cover the entire range of maturity within the lamb class. Typical carcasses from the younger group have moderately narrow, slightly flat rib bones; moderately red and moist and porous break joints; and a moderately dark pink color of inside flank muscles. The minimum degree of flank fat streakings required for such carcasses increases with advancing maturity throughout this group from minimum traces to maximum traces (see Figure 1).

(3) Typical carcasses from the more mature group have slightly wide, moderately flat rib bones; slightly red but slightly dry and hard break joints; and a moderately light red color of inside flank muscles. The minimum degree of flank fat streakings required for such carcasses increases with advancing maturity throughout this group from minimum slight to maximum slight (see Figure 1).

(4) A development of quality which is superior to that specified as minimum for the Choice grade may compensate, on an equal basis, for a development of conformation which is inferior to that specified as minimum for Choice as indicated in the following example: A carcass which has evidence of quality equivalent to the mid-point of the Choice grade may have conformation equivalent to the mid-point of the Good grade and remain eligible for Choice. However, in no instance may a carcass be graded Choice which has a development of conformation inferior to that specified as minimum for the Good grade. Also, a carcass which has conformation at least one-third grade superior to that specified as minimum for the Choice grade may qualify for Choice with a development of quality equivalent to the lower limit of the upper third of the Good grade. Compensation of superior conformation for inferior quality is limited to one-third grade of deficient quality. In addition, to be eligible for Choice, the lean flesh and external fat of lamb carcasses must be not less than tends to be slightly firm. Also, to be eligible for Choice, a carcass must have at least a very thin covering of external fat over the top of the shoulders and the outside of the center parts of the legs, and the back must have at least a thin covering of fat, that is, the muscles of the back may be no more than plainly visible through the fat.

(c) *Good.* (1) Lamb carcasses having minimum conformation qualifications for the Good grade are slightly thin muscled throughout, are moderately narrow in relation to their length and have slightly thin, tapering legs, and slightly narrow and thin backs and shoulders.

(2) Minimum requirements for fat streakings within and upon the inside flank muscles are specified for two maturity groups which cover the entire range of maturity within the lamb class. Typical carcasses from the younger group have moderately narrow, slightly flat rib bones; moderately red and moist and porous break joints; and a dark pink color of inside flank muscles. The minimum degree of flank fat streakings required for such carcasses increases with advancing maturity throughout this group from minimum practically devoid to maximum practically devoid (see Figure 1).

(3) Typical carcasses from the more mature group have slightly wide, moderately flat rib bones; slightly red but slightly dry and hard break joints; and a slightly dark red color of inside flank muscles. The minimum degree of flank fat streakings required for such carcasses increases with advancing maturity throughout this group from minimum traces to maximum traces (see Figure 1).

(4) A development of quality which is superior to that specified as minimum for the Good grade may compensate, on an equal basis, for development of conformation which is inferior to that specified as minimum for Good as indicated in the following example: A carcass which has evidences of quality at least one-third grade superior to that specified as minimum for the Good grade may have conformation equivalent to the minimum for the upper one-third of the Utility grade and remain eligible for Good. However, in no instance may a carcass be graded Good which has a development of conformation inferior to the minimum for the upper one-third of the Utility grade. Also, a carcass which has conformation at least one-third grade superior to that specified as minimum for the Good grade may qualify for Good with a development of quality equivalent to the lower limit of the upper third of the Utility grade. Compensation of superior conformation for inferior quality is limited to one-third grade of deficient quality. In addition, to be eligible for Good, the lean flesh and external fat of lamb carcasses must be not less than slightly soft.

(d) *Utility.* The Utility grade includes those lamb carcasses whose characteristics are inferior to those specified as minimum for the Good grade.

§54.125 Specifications for official U.S. standards for grades of yearling mutton carcasses (quality).

(a) *Prime.* (1) Yearling mutton carcasses having minimum conformation qualifications for the Prime grade tend to be thickly muscled throughout, are moderately wide and thick in relation to their length and have moderately plump and full legs, moderately wide and thick backs, and moderately thick and full shoulders.

(2) Minimum requirements for fat streakings within and upon the inside flank muscles are specified for one maturity group which covers the entire range of maturity within the yearling mutton class. Typical yearling mutton carcasses have moderately wide rib bones which tend to be flat; and a slightly dark red color of inside flank muscles. The minimum degree of flank fat streakings required for such carcasses increases with advancing maturity throughout this group from minimum moderate to maximum moderate (see Figure 1).

(3) Regardless of the extent to which the conformation of a carcass may exceed the minimum requirements for Prime, a carcass must have minimum Prime quality to be eligible for the Prime grade. However, a development of quality which is superior to that specified as minimum for the Prime grade may compensate, on an equal basis, for a development of conformation which is inferior to that specified as minimum for Prime as indicated in the following example: A carcass which has evidence of quality equivalent to the mid-point of the Prime grade (one degree of flank fat streakings more than required as the minimum for Prime) may have conformation equivalent to the mid-point of the Choice grade and remain eligible for Prime. However, in no instance may a carcass be graded Prime which has a development of conformation inferior to that specified as minimum for the Choice grade. In addition, to be eligible for Prime, the lean flesh and external fat must be not less than tends to be moderately firm. Also, to be eligible for Prime, a carcass must have at least a very thin covering of external fat over the top of the shoulders and the outside of the center parts of the legs, and the back must have at least a thin covering of fat, that is, the muscles of the back may be no more than plainly visible through the fat.

(b) *Choice.* (1) Yearling mutton carcasses having minimum conformation qualifications for the Choice grade are slightly thick muscled throughout, they tend to be slightly wide and thick in relation to their length and tend to have slightly plump and full legs, slightly wide and thick backs, and slightly thick and full shoulders.

(2) Minimum requirements for fat streakings within and upon the inside flank muscles are specified for one maturity group which covers the entire range of maturity within the yearling mutton class. Typical yearling mutton carcasses have moderately wide rib bones which tend to be flat; and a color of inside flank muscles which tends to be moderately dark red. The minimum degree of flank fat streakings required for such carcasses increases with advancing maturity throughout this group from minimum small to maximum small (see Figure 1).

(3) A development of quality which is superior to that specified as minimum for the Choice grade may compensate, on an equal basis, for a development of conformation which is inferior to the specified as minimum for Choice as indicated in the following example: A carcass which has

evidence of quality equivalent to the mid-point of the Choice grade may have conformation equivalent to the mid-point of the Good grade and remain eligible for Choice. However, in no instance may a carcass be graded Choice which has a development of conformation inferior to that specified as minimum for the Good grade. Also, a carcass which has a development of conformation at least one-third grade superior to that specified as minimum for the Choice grade may qualify for Choice with a development of quality equivalent to the lower limit of the upper third of the Good grade. Compensation of superior conformation for inferior quality is limited to one-third grade of deficient quality. In addition, to be eligible for Choice, the lean flesh and external fat must be not less than tends to be slightly firm. Also, to be eligible for Choice, a carcass must have at least a very thin covering of external fat over the top of the shoulders and the outside of the center parts of the legs, and the back must have at least a thin covering of fat, that is, the muscles of the back may be no more than plainly visible through the fat.

(c) *Good.* (1) Yearling mutton carcasses having minimum conformation qualifications for the Good grade are slightly thin muscled throughout, are moderately narrow in relation to their length and have slightly thin, tapering legs, and slightly narrow and thin backs and shoulders.

(2) Minimum requirements for fat streakings within and upon the inside flank muscles are specified for one maturity group which covers the entire range of maturity within the yearling mutton class. Typical yearling mutton carcasses have moderately wide rib bones which tend to be flat; and a moderately dark red color of inside flank muscles. The minimum degree of flank fat streakings required for such carcasses increases with advancing maturity throughout this group from minimum slight to maximum slight (see Figure 1).

(3) A development of quality which is superior to that specified as minimum for the Good grade may compensate, on an equal basis, for a development of conformation which is inferior to that specified as minimum for Good as indicated in the following example: A carcass which has evidence of quality at least one-third grade superior to that specified as minimum for the Good grade may have conformation equivalent to the minimum for the upper one-third of the Utility grade and remain eligible for Good. However, in no instance may a carcass be graded Good which has a development of conformation inferior to the minimum for the upper one-third of the Utility grade. Also, a carcass which has conformation at least one-third grade superior to that specified as minimum for the Good grade may qualify for Good with a development of quality equivalent to the lower limit of the upper third of the Utility grade. Compensation of superior conformation for inferior quality is limited to one-third grade of deficient quality. In addition, to be eligible for Good, the lean flesh and external fat must be not less than slightly soft.

(d) *Utility.* The Utility grade includes those yearling mutton carcasses whose characteristics are inferior to those specified as minimum for the Good grade.

§54.126 Specifications for official U.S. standards for grades of mutton carcasses (quality).

(a) *Choice.* (1) Mutton carcasses having minimum conformation qualifications for the Choice grade are slightly thick muscled throughout, they tend to be slightly wide and thick in relation to their length and tend to have slightly plump and full legs, slightly wide and thick backs, and slightly thick and full shoulders.

(2) Minimum requirements for fat streakings within and upon the inside flank muscles are

specified for one maturity group which covers the entire range of maturity within the mutton class. Typical mutton carcasses have wide, flat rib bones; and a dark red color of inside flank muscles. The minimum degree of flank fat streakings required for such carcasses increases with advancing maturity throughout this group from minimum modest to maximum modest, (see Figure 1).

(3) A development of quality which is superior to that specified as minimum for the Choice grade may compensate, on an equal basis, for a development of conformation which is inferior to that specified as minimum for Choice as indicated in the following example: A carcass which has evidence of quality equivalent to the mid-point of the Choice grade (one degree of flank fat streakings more than required as the minimum of Choice) may have conformation equivalent to the mid-point of the Good grade and remain eligible for Choice. However, in no instance may a carcass be graded Choice which has a development of conformation inferior to that specified as minimum for the Good grade. Also, a carcass which has conformation at least one-third grade superior to that specified as minimum for the Choice grade may qualify for Choice with a development of quality equivalent to the lower limit of the upper third of the Good grade. Compensation of superior conformation for inferior quality is limited to one-third grade of deficient quality. In addition, to be eligible for Choice, the lean flesh and external fat must be not less than tends to be slightly firm. Also, to be eligible for Choice, a carcass must have at least a very thin covering of external fat over the top of the shoulders and the outside of the center parts of the legs, and the back must have at least a thin covering of fat, that is, the muscles of the back may be more than plainly visible through the fat.

(b) *Good.* (1) Mutton carcasses having minimum conformation for the Good grade are slightly thin muscled throughout, moderately narrow in relation to their length and have slightly thin, tapering legs, and slightly narrow and thin backs and shoulders.

(2) Minimum requirements for fat streakings within and upon the inside flank muscles are specified for one maturity group which covers the entire range of maturity within the mutton class. Typical mutton carcasses have wide, flat rib bones; and a dark red color of inside flank muscles. The minimum degree of flank fat streakings required for such carcasses increases with advancing maturity throughout this group from a minimum small amount to a maximum small amount (see Figure 1).

(3) A development of quality which is superior to that specified as minimum for the Good grade may compensate, on an equal basis, for a development of conformation which is inferior to that specified as minimum for Good as indicated in the following example: A carcass which has evidence of quality at least one-third grade superior to that specified as minimum for the Good grade may have conformation equivalent to the minimum for the upper one-third of the Utility grade and remain eligible for Good. However, in no instance may a carcass be graded Good which has a development of conformation inferior to that specified as minimum for the Utility grade. Also, a carcass which has conformation at least one-third grade superior to that specified as minimum for the Good grade may qualify for Good with a development of quality equivalent to the lower limit of the upper third of the Utility grade. Compensation of superior conformation for inferior quality is limited to one-third grade of deficient quality. In addition, to be eligible for Good, the lean flesh and external fat must be not less than slightly soft.

(c) *Utility.* (1) Mutton carcasses having minimum conformation qualifications for the Utility

grade are thinly muscled throughout, are very angular and very narrow in relation to their length and have thin, slightly concave legs, very narrow and sunken backs, and narrow, sharp shoulders. Hips and shoulder joints are slightly visible.

(2) Minimum requirements for fat streakings within and upon the inside flank muscles are specified for one maturity group which covers the entire range of maturity within the mutton class. Typical mutton carcasses have wide, flat rib bones; and a very dark red color of inside flank muscles. The minimum degree of flank fat streakings required for such carcasses increases with advancing maturity throughout this group from minimum practically devoid to maximum practically devoid (see Figure 1).

(3) A development of quality which is superior to that specified as minimum for the Utility grade may compensate, on an equal basis, for a development of conformation which is inferior to that specified as minimum for Utility as indicated in the following example: A carcass which has evidence of quality at least one-third grade superior to that specified as minimum for the Utility grade may have conformation equivalent to the minimum for the upper one-third of the Cull grade and remain eligible for Utility. However, in no instance may a carcass be graded Utility which has a development of conformation inferior to the minimum for the upper one-third of the Cull grade. Also, a carcass which has conformation at least one-third grade superior to that specified as minimum for the Utility grade may qualify for Utility with a development of quality equivalent to the lower limit of the upper third of the Cull grade. Compensation of superior conformation for inferior quality is also limited to one-third grade of deficient quality. In addition, to be eligible for Utility, the lean flesh and external fat must be not less than soft.

(d) *Cull*. The Cull grade includes those mutton carcasses whose characteristics are inferior to those specified as minimum for the Utility grade.

§54.127 Specifications for official U.S. standards for grades of carcass lamb, yearling mutton, and mutton (yield).

(a) The yield grade of an ovine carcass or side is determined on the basis of the adjusted fat thickness over the ribeye muscle between the 12th and 13th ribs. The adjusted fat thickness range for each yield grade is as follows: Yield Grade 1 -- 0.00 to 0.15 inch; Yield Grade 2 -- 0.16 to 0.25 inch; Yield Grade 3 -- 0.26 to 0.35 inch; Yield Grade 4 -- 0.36 to 0.45 inch; and Yield Grade 5 -- 0.46 inch and greater.

(b) The following descriptions provide a guide to the characteristics of carcasses in each yield grade to aid in determining yield grades subjectively.

(1) *Yield Grade 1*. (i) A carcass in Yield Grade 1, which is near the borderline with Yield Grade 2, usually has only a thin layer of external fat over the back and loin and slight deposits of fat in the flanks and cod or udder. There is usually a very thin layer of fat over the top of the shoulders and the outside of the legs. Muscles are usually plainly visible on most areas of the carcass.

(ii) A carcass in Yield Grade 1 with the maximum amount of fat allowed would have an adjusted fat thickness of 0.15 inch. Such a carcass with normal fat distribution and weighing 55 pounds would also have a body wall thickness of about 0.75 inch, and one weighing 75 pounds would have a body wall thickness of about 0.85 inch.

(2) *Yield Grade 2*. (i) A carcass in Yield Grade 2, which is near the borderline with Yield Grade 3, usually has a slightly thin layer of fat over the back and loin and the muscles of the back are not visible. The top of the shoulders and the outside of the legs have a thin covering of fat and the muscles are slightly visible. There are usually small deposits of fat in the flanks and cod or udder.

(ii) A carcass in Yield Grade 2 with the maximum amount of fat allowed would have an adjusted fat thickness of 0.25 inch. Such a carcass with normal fat distribution and weighing 55 pounds would also have a body wall thickness of about 0.90 inch, and one weighing 75 pounds would have a body wall thickness of about 1.00 inch.

(3) *Yield Grade 3*. (i) A carcass in Yield Grade 3, which is near the borderline with Yield Grade 4, usually has a moderately thick covering of fat over the back. The top of the shoulders are completely covered, and the legs are nearly completely covered, although the muscles on the outside of the lower legs are visible. There usually are slightly large deposits of fat in the flanks and cod or udder.

(ii) A carcass in Yield Grade 3 with the maximum amount of fat allowed would have an adjusted fat thickness of 0.35 inch. Such a carcass with normal fat distribution and weighing 55 pounds would also have a body wall thickness of about 1.05 inches, and one weighing 75 pounds would have a body wall thickness of about 1.15 inches.

(4) *Yield Grade 4.* (i) A carcass in Yield Grade 4, which is near the borderline with Yield Grade 5, usually is completely covered with fat. There usually is a very thick covering of fat over the back and a slightly thick covering over the shoulders and legs. There usually are large deposits of fat in the flanks and cod or udder.

(ii) A carcass in Yield Grade 4 with the maximum amount of fat allowed would have an adjusted fat thickness of 0.45 inch. Such a carcass with normal fat distribution and weighing 55 pounds would also have a body wall thickness of about 1.20 inches, and one weighing 75 pounds would have a body wall thickness of about 1.30 inches.

(5) *Yield Grade 5.* A carcass in Yield Grade 5 has an adjusted fat thickness of more than 0.45 inch. The external fat covering on most parts of the carcass is usually greater than that described for Yield Grade 4.