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G85-710 Livestock Market Terms, Part III

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Livestock Market Terms, Part III

The third in a series of three*, this NebGuide discusses livestock grading terms for both live animals and carcasses.

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Livestock producers and feeders, and others involved with agriculture are exposed daily to market news articles and broadcasts.

Most people understand the terms used in the market news broadcasts and stories. Complete definitions of terms in the livestock marketing area are provided to eliminate any misunderstanding of a market news broadcast or article.

Livestock Grading

Grading is the segregation of a commodity into lots or groupings that have a relatively high degree of uniformity in certain specified attributes associated with market preferences and valuation. For livestock (live) grading, animals are first classified by species, expected use, class (based on sex and condition), and then graded.

There are two federal grades for meat--quality grades and yield grades or cutability. Quality grades categorize meat on the basis of its acceptability for consumer-cuts; yield grades categorize carcasses on the basis of an expected yield of boneless, trimmed retail cuts.

USDA Grades for Live Animals

Slaughter Cattle Quality Grades. Slaughter cattle quality grades are based on factors related to the

palatability of the lean. Quality is evaluated by directing attention to finish (the amount and distribution), muscling fullness and firmness, and physical characteristics related to maturity. When considering maturity, approximate maximum age limits for steers and heifers are 4, months for Prime and Choice and 48 months for Good and Standard. If these classes are past 48 months of age, Commercial grade applies. No age limits are recognized for any class in the Utility, Cutter and Canner grades.

<i>Class</i>	<i>Grade</i>
Steers, heifers	Prime, Choice, Good, Standard, Commercial, Utility, Cutter, Canner
Cows	Choice, Good, Standard, Commercial, Utility, Cutter, Canner
Bullocks	Prime, Choice, Good, Standard, Utility
Bulls	Not quality graded

Slaughter Cattle Yield Grades. Yield grades for slaughter cattle depend on the same factors as those used for carcass beef-fat thickness over the ribeye; percentage of kidney, pelvic, and heart fat; carcass weight; and the area of the ribeye muscle. Although these factors cannot be measured directly in the live animal, live cattle can be evaluated according to muscling and fatness. The thickness and fullness of muscling in relation to skeletal size largely account for the area of the ribeye and carcass weight. External fatness largely accounts for the effects of the thickness of fat over the ribeye and the percentage of kidney, pelvic, and heart fat.

The following grade numbers are assigned to all classes of slaughter cattle: 1, 2, 3, 4, and 5, with Yield Grade Number 1 being the most desirable.

USDA Feeder Cattle Grades

In the 1970s the cattle industry began using a new set of USDA grades for feeder cattle. Based on frame size and thickness of muscling, these grades were designed to provide a more adequate description of feeder cattle when used in conjunction with factors such as age, sex, weight and condition. The objective of these grades is to provide a system to separate animals into more uniform groups when they are bought and sold.

Frame size refers to the end weight usually required before an animal can be expected to grade Choice--the larger the frame the higher the rate of gain, but the longer the required feeding period and the greater the live weight needed to grade Choice. Thickness relates to yield, ribeye size, and muscle-to-bone ratio.

The following specifications for each category apply only to thrifty animals. Thriftiness refers to the ability of the feeder animal to gain weight and fatten rapidly and efficiently. Indicators of thriftiness are shape for age and alertness.

Frame Size

- ***Large (L)*** frame feeder cattle have large frames and are tall and long for their age. Steers would not be expected to produce Choice carcasses until their live weight exceeded 1,200 lbs.; heifers, more than 1,000 lbs.
- ***Medium (M)*** frame feeder cattle have slightly large frames and are slightly tall and slightly long-bodied for their age. Steers would not be expected to grade Choice until they reached a live weight

of between 1,000 and 1,200 lbs.; heifers, between 850 and 1,000 lbs.

- **Small (S)** frame feeder cattle have small frames and are shorter bodied and shorter in height than medium frame feeder cattle. Steers would be expected to grade Choice at less than 1,000 lbs.; heifers, at less than 850 lbs.

Thickness

- **No. 1:** These cattle generally show a high proportion of beef breeding. They are slightly thick throughout, slightly thick and full in the forearm, showing a rounded appearance through the back and loin, with moderate width between the legs, both front and rear.
- **No. 2:** These cattle are narrow through the forequarter and the middle part of the rounds. The forearm is thin, and the back and loin have a sunken appearance. The legs, both front and rear, are set close together.
- **No. 3:** Feeder cattle included in this grade are thrifty animals which have less thickness than the minimum requirements specified for the No. 2 grade.
- **Inferior:** This grade includes those animals which are not expected to perform normally in their present state and those that are double-muscled. Cattle in this grade may have any combination of thickness and frame size.

Vealer and Slaughter Calf Quality Grades

Quality grades for vealers and slaughter calves are determined by conformation, finish and quality. Conformation relates to the general body proportions and to the ratio of meat and bone. Finish refers to the fatness of the animal, and quality is defined as the refinement of hair, hide and bone, and to the smoothness and symmetry of the body. Quality is also associated with carcass yield and the proportion of meat to bone.

Quality grades for all classes of these animals are Prime, Choice, Good, Standard, Utility, and Cull. Yield grades are not established for vealer or slaughter calves.

Slaughter Hogs

Slaughter hog grades are also based on the quality of the lean and the yield of the four lean cuts. Belly thickness is a consideration as an indicator of bacon production. Softness and oiliness of the carcass is also a consideration. The amount and distribution of external finish, the firmness of fat and the firmness of the lean are used to indicate quality. Slaughter barrows and gilts that do not meet standards of acceptable quality are graded Utility. Those that meet the standards of acceptable quality are graded U.S. No. 1, 2, 3, and 4 on the basis of expected combined carcass yield of the four lean cuts. U.S. No. 1 represents the highest yield.

Factors used to evaluate yield are average backfat thickness in relation to carcass length or live weight. Live weight is the only factor that can be readily determined and provision is made for superior muscling to compensate for greater fatness within certain limitations.

Class	Grade Name
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Barrows, Gilts	U.S. No. 1, U.S. No. 2, U.S. No. 3, U.S. No. 4, U.S. Utility
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Sows	U.S. No. 1, U.S. No. 2, U.S. No. 3, Medium, Cull
Boars, Stags	No official grade standards exist

Feeder Pigs

Grades for feeder pigs are U.S. No. 1, 2, 3, 4, Utility and Cull. Unthrifty pigs are graded Utility and Cull, depending on the degree of unthriftiness. Pigs classified as thrifty are graded U.S. No. 1, 2, 3, or 4 on the basis of logical slaughter potential. The logical slaughter potential of a thrifty feeder pig is the expected slaughter grade at a market weight of 220 pounds after a normal feeding period. Thriftiness in a feeder pig is its apparent ability to gain weight rapidly and efficiently.

An indication of slaughter potential is derived by a composite evaluation of the development of the muscular and skeletal system. Indicators of thriftiness are size for age, health, and other general characteristics.

<i>Class</i>	<i>Grade Names</i>
Barrows, gilts, boar pigs (it is assumed that boar pigs will be castrated prior to the development of secondary physical characteristics of a boar).	U.S. No. 1, U.S. No. 2, U.S. No. 3, U.S. No. 4, Utility, Cull

Slaughter Lambs, Yearlings, Sheep

The live slaughter animal grade standards are based on factors that are directly related to the quality and yield grades for their carcasses. Quality grade names and yield grade designations are identical for both live animals and carcasses. The factors on which live quality and yield grades are based are also consistent with those of carcass grades.

<i>Class</i>	<i>Grade Names</i>
<i>QUALITY GRADES</i>	
Lambs, yearlings	Prime, Choice, Good, Utility, Cull
Sheep	Choice, Good, Utility, Cull

<i>QUALITY GRADES</i>	
Slaughter lambs, yearlings, sheep	1, 2, 3, 4, 5
Feeder lambs, yearlings, sheep	Prime, Choice, Good, Utility, Cull

USDA Grades for Carcass Meats

Beef Quality Grades. The quality grade of a beef carcass is based on the palatability-indicating mostly the characteristics of the lean. The quality of the lean is determined by considering the degree of marbling and firmness in relation to maturity. Maturity is determined by evaluating the size, shape, and hardening of bones and cartilages, and by the color of the lean meat. Marbling refers to the flecks of fat interspersed among muscle fibers in the lean. The degree of marbling is considered to be positively associated with flavor, tenderness, juiciness and palatability.

<i>Class</i>	<i>Grade Names</i>
Steers, heifers	Prime, Choice, Good, Standard, Commercial, Utility, Cutter, Canner

Cows	Choice, Good, Standard, Commercial, Utility, Cutter, Canner
Bullock	Prime, Choice, Good Standard, Utility
Bulls	Not quality graded

Beef Yield Grades. Beef yield grades are based on the percentage yield of boneless, closely trimmed, retail cuts from the round, loin, rib, and chuck. There are five USDA yield grades numbered 1 through 5, with Yield Grade 1 carcasses having the highest yield of retail cuts, and Yield Grade 5 the lowest.

A carcass typical of its yield grade would be expected to yield about 4.6% more in retail cuts than the next lower yield grade when USDA cutting methods are used (about 2/3 of the bone is removed and the cuts are trimmed of fat in excess of inch).

Yield variations of retail cuts among carcasses are caused by the amount of fat that must be trimmed from the carcass in making the cuts, and the thickness and fullness of the muscling. The four measures yield grades are based on are: the amount of external fat, the size of the ribeye muscle, the amount of kidney, pelvic and heart fat, and the carcass weight.

External fat is the most important yield grade factor because it is a good indicator of the amount of fat that must be trimmed in making retail cuts. A single fat thickness measurement over the ribeye muscle has proven to be the most practical indicator of external fatness. This measurement is made after the side of beef has been separated into a forequarter and a hindquarter. Four-tenths of an inch variation in fat thickness over the ribeye makes a full yield grade change.

The area of the ribeye muscle is another factor used in determining yield grades. The ribeye muscle lies on each side of the backbone and runs the full length of the back. When a side of beef is separated into a forequarter and a hindquarter, a cross-section of the ribeye muscle is exposed and its area can be measured in square inches. A change of about 3 square inches in ribeye area makes a full yield grade change.

Increases in fat deposits on the inside of the carcass around the kidney and in the pelvic and heart areas decrease the yield of retail cuts. A 5% change in the amount of these fats makes a full yield grade change.

Carcass weight is the least important yield grade factor. When used with the other three factors, an increase in weight indicates a decrease in the yield of retail cuts. It takes a change of about 250 pounds in carcass weight to make a full yield grade change.

<i>Class</i>	<i>Grade Name</i>
Beef yield grades	1, 2, 3, 4, 5
Calf and vealer quality grade (Yield grades not established for calf and vealer carcasses)	Prime, Choice, Good, Standard, Utility, Cull

Pork Carcasses. Grades for pork carcasses taken from barrows and gilts are based on quality-indicating characteristics of the lean and the expected yields of the four lean cuts (specifically, the ham, loin, picnic shoulder, and Boston butt). Two general levels of quality are specified--acceptable and unacceptable.

Acceptability is based on firmness, marbling and color. Indirect indicators are firmness of fat and lean,

feathering between the ribs, and color. The degree of external fatness is not considered in evaluating the quality of the lean. Suitability of the belly for bacon (in terms of thickness), along with softness and oiliness of the carcass, is considered in quality evaluations. Carcasses having unacceptable quality of lean and/or bellies that are too thin and/or carcasses that are soft and oily are graded U.S. Utility. If a carcass qualifies as acceptable, it is graded U.S. No. 1, 2, 3, or 4, based entirely on the expected carcass yields of the four lean cuts.

Carcasses grading U.S. No. 1 are expected to yield 53% or more of the four lean cuts based on chilled carcass weight; U.S. No. 2 carcasses 50 to 52.9%; U.S. No. 3 carcasses 47 to 49.9%; and U.S. No. 4 carcasses less than 47%. Variations in yield of the four lean cuts are associated with variations in fatness and muscling.

<i>Class</i>	<i>Grade Names</i>
Barrows, gilts	U.S. No. 1, U.S. No. 2, U.S. No. 3, U.S. No. 4, U.S. Utility
Sows	U.S. No. 1, U.S. No. 2, U.S. No. 3, Medium, Cull
Boars, stags	No official grade standards

Lamb, Yearling Mutton, and Mutton Carcasses. Grades for ovine carcasses are based on palatability indicating characteristics of the lean, conformation, and the estimated percentage of closely trimmed, boneless, major retail cuts to be derived from the carcass. The relevant retail cuts are from the leg, loin, hotel rack, and shoulder. Quality grades specified are Prime, Choice, Good, Utility and Cull. Mutton carcasses are not eligible for Prime grades. Five yield grades, Number 1 through 5, cover the range in cutability, with Yield Grade 1 indicating the highest yield. A carcass that is typical of its yield grade would be expected to yield 3.5% more in total retail cuts than the next lower yield grade when USDA cutting and trimming methods are followed. Variations in yield are attributed to the amount of fat trimmed off in making retail cuts and the thickness and fullness of muscling. The yield of an ovine carcass is determined by considering the amount of external fat, the amount of kidney and pelvic fat, and the conformation grade of the legs.

<i>Class</i>	<i>Grade Names</i>
Lamb and yearling mutton quality grades	Prime, Choice, Good, Utility, Cull
Lamb and yearling mutton, and mutton yield grades	1, 2, 3, 4, 5

See NebGuides G82-590, *Feeder Cattle Grades*, and G83-675, *Yield Grades and Quality Grades for Lamb Carcasses*, for a more complete explanation of certain specific terms relating to beef and lamb carcasses and feeder cattle grades.

*G84-708, *Livestock Market Terms, Part I* defines and categories general livestock and dressed meat terms, market types and marketing. G84-709, *Livestock Market Terms, Part II* covers general market and futures market terms.

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