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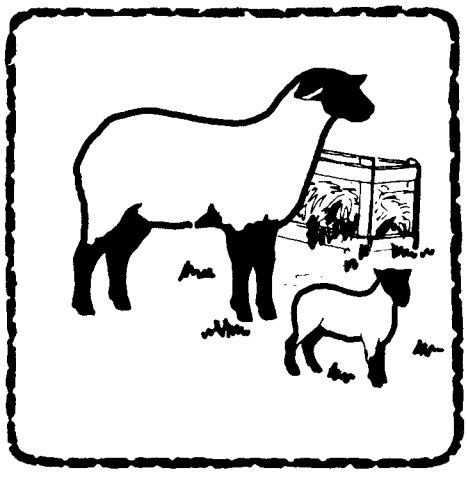
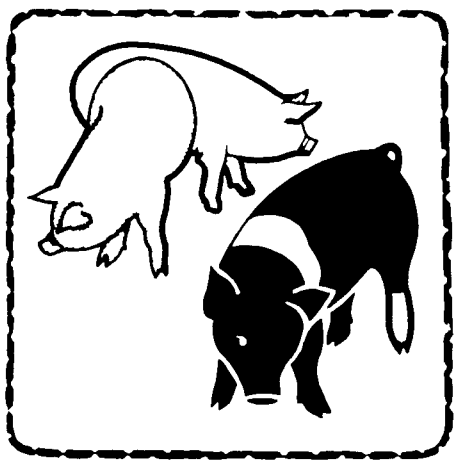
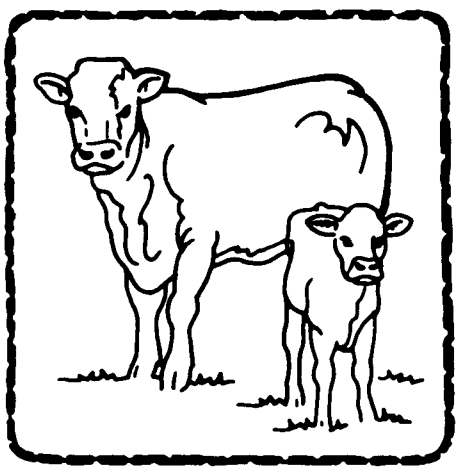
4-H Meat Animal Evaluation and Judging







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Contents

Why Evaluate Livestock? 3
Livestock evaluation terms and definitions 3
Beef Cattle 4
Steers 4
Breeding cattle 7
Sheep 11
Market lambs 11
Breeding ewes 12
Rams 12
Wool 12
Swine 16
Market animals 16
Breeding hogs 16
Evaluation and Judging Contest 20
Why we judge: decision making and defending our decisions 20
The mechanics of judging 20
Procedures for judging 21
Giving reasons 22

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4-H Meat Animal Evaluation and Judging

Why Evaluate Livestock?

Visual appraisal (evaluation) is important in selection of breeding stock as well as in buying and selling meat animals for slaughter. While market animals are bought or sold live, both buyers and sellers must attempt to evaluate the animal's carcass potential accurately. Today's breeder combines performance records with live evaluation when selecting breeding animals, but the same traits that indicate high merit in slaughter animals are important in selecting breeding stock.

Livestock evaluation and judging is a skill developed through patient study and practice. To be a good evaluator and judge of livestock you must:

- Know the parts of the animal and their location.
- Know which parts are important for breeding stock or for cuts of meat in market animals and recognize the most desirable shape of each part.
- Visualize the "ideal" animal.
- Make critical observations and identify and compare the strong (good) and weak (bad) points of each animal.
- Develop a system of analyzing and examining animals so you do not overlook important points.

Livestock evaluation terms and definitions

Type is an ideal or standard of perfection that combines all the characteristics contributing to an animal's usefulness for meat production.

Conformation is the form of an animal as determined by structural shape and muscling; the relationship of one part of the animal's body to another.

Finish refers to the degree and distribution of fat cover. This term should be used only in market classes.

Natural fleshing is a term used to express differences in muscle structure of breeding stock.

Quality means the degree of refinement of head, hide, hair, and bone. A high-quality animal has refinement of head and bone and has a smooth, thin, pliable hide with a good hair coat.

A balanced appearance results when each part of the animal fits together in a harmonious fashion. The forequarter and hindquarter are nearly equal in size and development.

Style means eye appeal. A stylish animal is attractive, displays alertness, and shows to its best advantage.

Size refers to weight and height relative to age and is very important. A large animal has a definite advantage over a small one. However, size alone has little value and should not be confused with height alone.

Breed character is the combination of those characteristics peculiar to each breed such as general appearance, color, and head shape.

Sex character refers to the appearance which distinguishes male from female. A male should be masculine as shown by the increased development of the forequarter; a bold, strong head, and a massive, powerful appearance. The female should be more refined, with a smoother, blended shoulder and a more refined head and bone structure.

Feet, legs, and bone must be examined carefully. Straight legs with heavy bone are essential for sound body structure, especially in breeding animals. The legs should be set out on the corners of the body. For a strong foundation, the feet should be of ample size and depth. The animal should be able to move or stand well without any evidence of unsound feet and legs.

Dressing percentage indicates the yield of carcass in proportion to live weight. More pounds of carcass, without additional fat, are desirable. Factors which affect dressing percentage are fill, finish, conformation, and refinement of hide, hair, and bone.

Yield grade is the relationship of fat to muscle. Bone remains so constant that it will not materially affect the yield grade. In sheep and beef, there are five yield grades numbered 1 through 5. Carcasses in yield grade 1 are leanest and have the highest cutability while carcasses in yield grade 5 are the fattest and have the lowest cutability. Yield grade 2 lambs and yield grade 1 and 2 steers are generally in greater demand. Both species grading into the choice grade is preferred. Swine grades are U.S. 1 through 3 and cull with these grades reflecting carcass cutabililty. U.S. #1 is the most desirable.

Balance is the harmonious relationship of all body parts, blended for symmetry and pleasing appearance.

Bloom is an inclusive term used to describe the general look of a healthy, clean, lustrous hair coat.

Marbling refers to the particles of fat distributed throughout the lean in the loin eye.

Upstanding refers to the height from the floor of the chest to the ground.

Beef Cattle

Learn the names of the various parts of the animal and their location on the animal's body. This is necessary so you will know what to look for and you can tell someone else what you have seen.

Become familiar with the wholesale and retail cuts and their location. Some cuts are much more valuable than others.

Steers

In evaluating steers, consider type, muscling, finish, carcass merit, yield, quality, balance, style, and smoothness. The function of steers is to produce a heavy-muscled, trim carcass, of acceptable eating quality, and to do it rapidly and efficiently. Evaluate steers for body composition, ratio of lean to fat, and size for age. Animals selected within a breed for faster growth are usually more efficient converters of feed to beef.

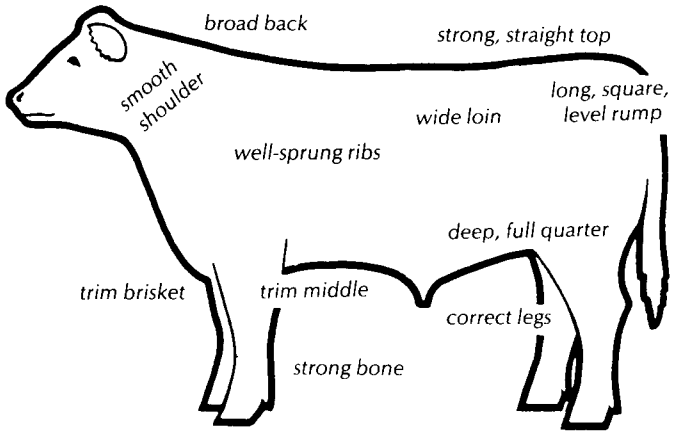
All meat-type animals, whether used for breeding or slaughter, are made up of skeleton, muscle, fat, and hide. The skeleton provides reference points to look beneath the hide, fat, and muscle of an animal. The skeleton also allows you to make comparisons based on skeletal structure as well as the outward, more visible signs of differences. The skeletal framework is important in evaluating livestock because it helps you determine the conformation of the animal. The accompanying illustration shows depth and spring of rib (A), length of loin (B) and rump (C), and length of legs (D). These are determined by skeletal structure. Skeletal "correctness" of meat animals is desirable, but receives more emphasis in breeding classes than steer classes. The percent bone in animals of about the same scale will vary little. Muscle and fat are the two carcass components that vary the most.

A steer of desirable type is heavily muscled, straight lined, and well balanced. Remember that the modern type steer is moderately long bodied and tall, but need not be extremely so. An extremely tall, shallow-bodied, light-muscled, or narrow steer is no more correct than a very low-set, compact, small-sized one.

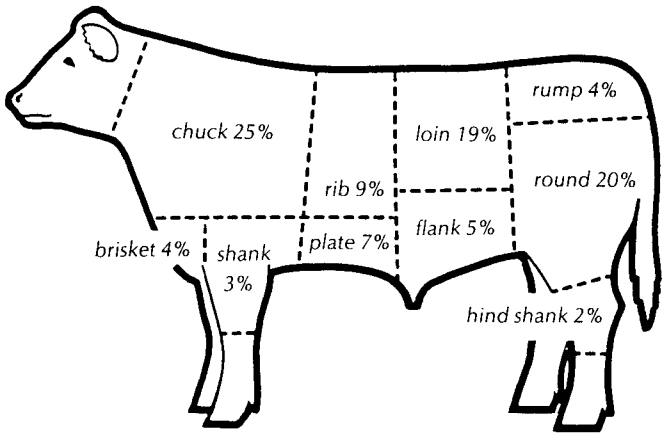
External signs of muscling are the forearm, the outside of the lower round, the quarter, and the rump. Thickness and expression of muscling in these areas is desirable. The top of a meaty animal should present a *curve,* rather than a flat appearance, since muscle is laid down in a curved or semicircular fashion in this area. Animals should be more broad over the hip and rump than over the shoulders, since the rear part of the body is composed of preferred cuts. Spring of rib (as observed from a top view) is necessary to provide room for organs, feed intake, and (in females) reproduction. The chest should be wide enough for movement and capacity for vital organs. Excessive width of chest and coarse shoulders, or incorrect skeletal structure, are discriminated against in judging. The same sign posts are used to determine muscle in heifers; however, long, smooth muscling is preferred because this is associated with greater femininity and fertility.

External signs of excessive fat include depth of brisket, fore and rear flanks, middle and twist, as well as a thick, flat top. Trim necks, throats, briskets, underlines, and twist are desirable traits. Heifers should be trim in their condition. Slightly more fat and depth of middle may be tolerated, however, provided the other traits sought after in breeding cattle are present. Trimness and refinement of the head, neck, throat, and brisket of heifers contribute to greater femininity and fertility.

Cross sections of frozen steer carcasses illustrate the superior muscling of the modern steer compared to the lack of muscling and extreme finish of the old-fashioned steer. This comparison is illustrated on page 8.

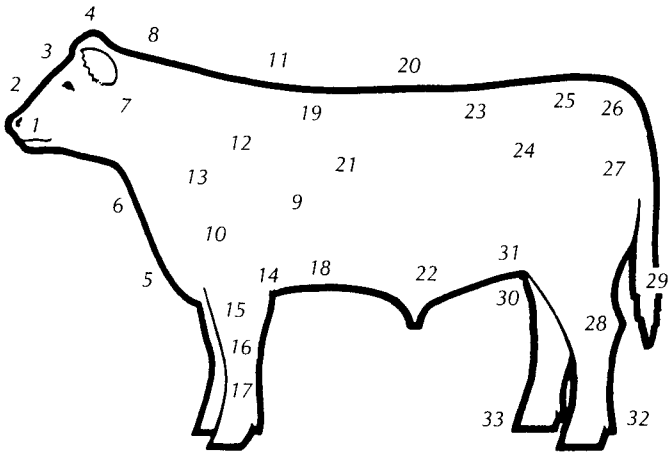


Ideal type steer.

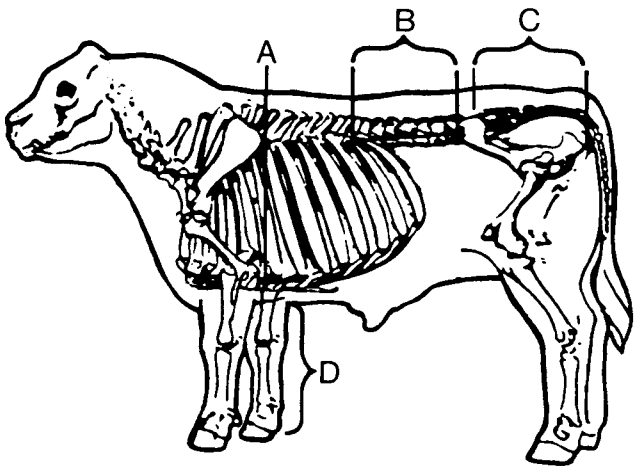


Ideal beef conformation, showing wholesale cuts.

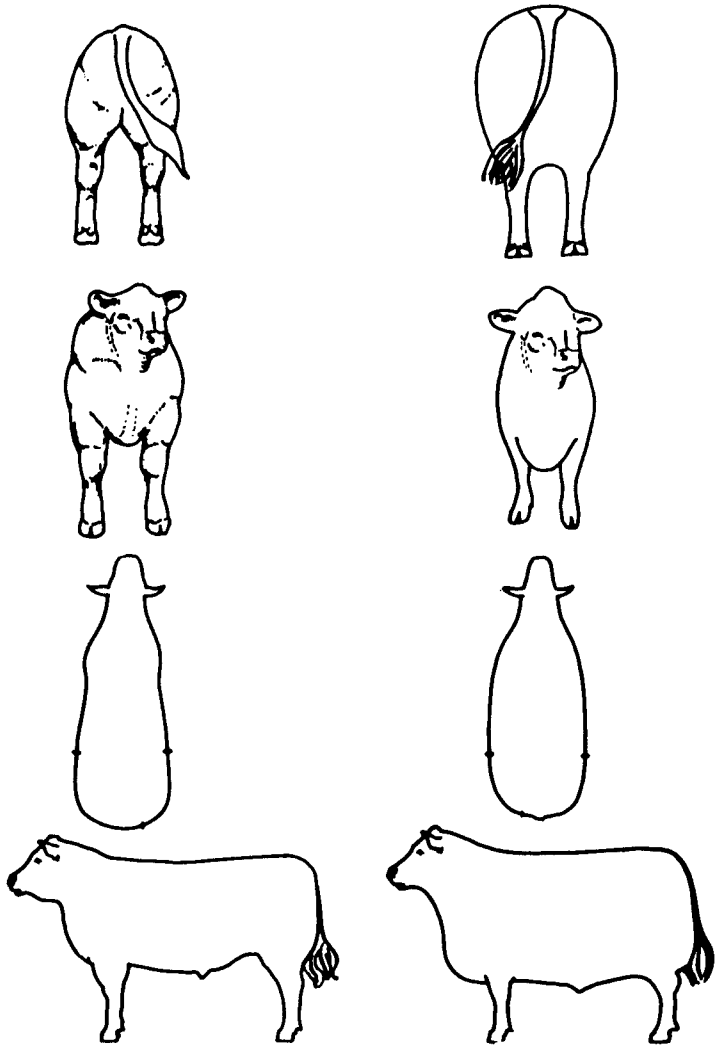
1. *muzzle*
2. *face*
3. *forehead*
4. *poll*
5. *brisket*
6. *dewlap*
7. *neck*
8. *crest*
9. *forerib (heart girth)*
10. *point of shoulder*
11. *top of shoulder*
12. *shoulder*
13. *shoulder vein*
14. *elbow*
15. *arm*
16. *knee*
17. *shank*
18. *foreflank*
19. *crops*
20. *back*
21. *ribs*
22. *paunch*
23. *loin*
24. *hip or hook*
25. *rump*
26. *tailhead*
27. *thigh or round*
28. *hock*
29. *switch*
30. *cod*
31. *hind flank*
32. *dew claw*
33. *hoof*



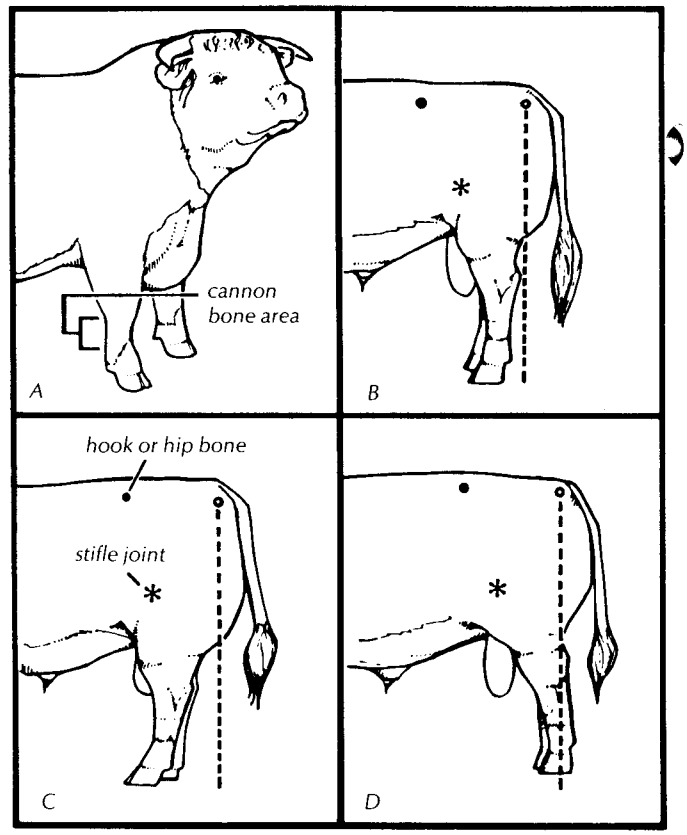
Parts of a steer.



Skeleton showing outline of trim steer.



Comparison of trim, heavy-muscled steer (left) and wasty, light-muscled steer (right) with identical skeletal size.



Points for judging cattle legs. (*A*) The cannon bone of the animal's front leg is one of the best indicators of bone size. (*B*) Example of a proper leg "set;" note how the line from the pin bone almost intersets the hock and dewclaw. (C) Example of a sickle-hocked animal. The hind legs are too far under. (*D*) A post-legged animal. The hind feet are too far back, making them too straight.

A comparison of a desirable steer and a less desirable steer is shown in the drawing on the left on page 6. Their skeletal size is identical but their body composition varies greatly. Let's examine these steers for muscling and fat. A rear view gives a comparison of stifle and quarter thickness, expression of muscle over the rump and down the top, trimness in the twist and down the top, and correctness of leg structure.

Size (length and height) body composition (fat and muscle), sex character, balance, straightness of lines, and correctness can be seen and observed from a side view. One reference point to estimate length and height is cannon length. Cattle that have more bone length are usually longer in other skeletal dimensions as well.

A front view permits comparison of breed and sex character, waste in the brisket, and structural correctness of the legs, feet, and shoulders. Evidence of muscling can be observed in the forearm and the shoulder.

Correctness of feet and legs and, to a certain extent, the amount of muscle can be evaluated by watching cattle move. Cattle that are correct on their feet and legs will be able to carry their legs in a straight line and bend their hock properly, placing their feet forward without deviation from side to side. Look for animals that move with a long, free stride, keeping a fairly straight top line while on the move. Evaluate muscle expression in the stifle, outside round, and forearm during movement. A smooth appearance without muscle definition and prominence indicates fat.

An evaluation of body composition of the two steers reveals that the steer on the right in the illustration would yield a more desirable carcass with a greater ratio of lean to fat. Comparisons of this type should be made whether selecting an individual or a group of individuals. Remember, always compare animals to an ideal.

In a judging contest, you'll usually have an opportunity to handle steers, not breeding cattle, to determine fat thickness. The exact estimates of fat are not as critical in breeding cattle as in steers. Establish a routine pattern for handling to judge fat—always keeping your fingers together for a uniform analysis. Check fat thickness down the top, over the rib, loin edge, and point of the shoulders, and in the rear flank. Remember, visual appraisal provides a good estimate of fat and time spent handling should only confirm your first opinion or help you decide which is the better of a closely matched pair.

Breeding cattle

When you judge breeding cattle, you need to consider several important points in addition to those listed for judging steers or market classes. These are: condition, size, feet and legs, bone, breed character, and sex character.

Condition: This term refers to the amount of fat cover. In breeding classes, the term "condition" should be used rather than "finish." In judging breeding cattle, muscling is primary and condition is second.

Size: Adequate size for age is very important. A good, big beef animal has a definite advantage over a good, small one. On the other hand, do not sacrifice everything else for size alone and do not confuse height alone with size.

Feet, legs, and bone: Strong, straight legs with ample bone are a must in breeding cattle. The legs should be set out on the corners of the body. The feet should be of ample size and depth to form a strong foundation. The animal should be able to move well without any evidence of unsound feet and legs.

Breed character: This describes head shape and general appearance or markings of a particular breed. You should learn from breed pictures the characteristics of the different beef breeds.

Sex character: This is the appearance that distinguishes male from female. The bull should be rugged and masculine in appearance, especially about the head, neck, and shoulders. The head should be carried with the poll slightly above the top line of the animal, indicating alertness and energy. In judging all breeding animals, male and female, strict attention should be given to the senses. The ability to see, hear, and smell are essential.

The descriptive term "femininity" is used in evaluating and judging to mean the typical female characteristics as opposed to bulls and steers.

The cow should show femininity about the head and be thin-necked and feminine about the shoulders. A thick-necked, heavy-fronted, coarse-headed cow is usually not a reliable calf producer. The cow should have a well-developed, balanced udder, with four evenly-spaced and functioning teats.

modern steer

Desirable muscling in steers.

old-fashioned steer

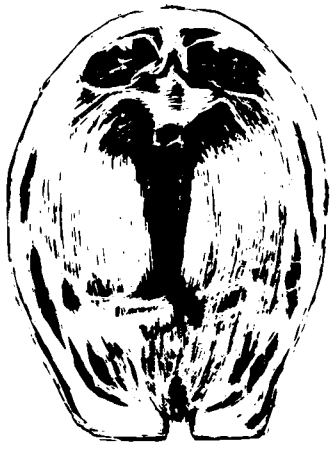
The cross section of the rear quarters of the modern steer has a more rounded appearance over the top and down the side of the round. It shows less finish on the top and less intermuscular fat.

The old-fashioned steer is characterized by its extreme fat cover, large deposits of fat between muscles and in the twist, and fatness on top and down the side of the round.

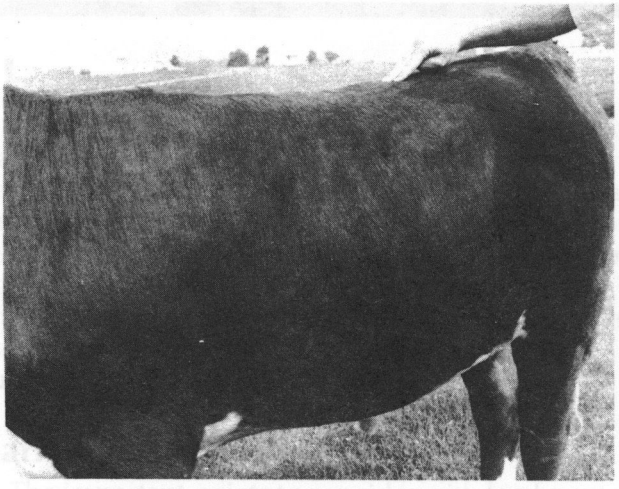
The modern steer possesses leanness as well as marbling, which enables it to grade for quality as well as having a high yield of lean meat.

The cross section through the ribeye shows a larger ribeye area in the modern steer as well as more muscling down the side of the body and less overall fat cover.

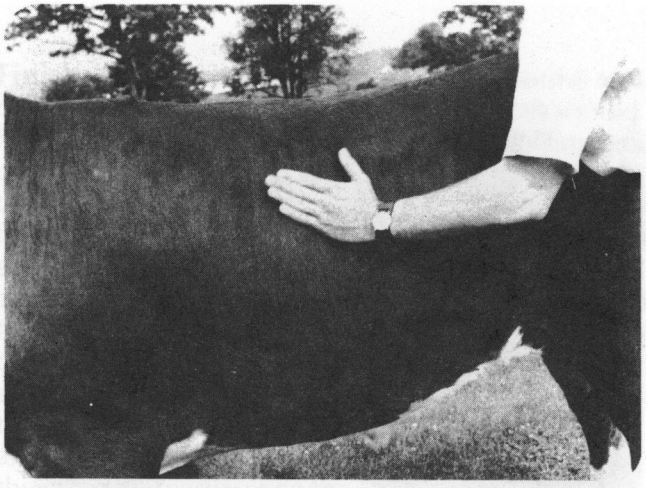
The old-fashioned steer has a smaller ribeye, less total muscle, and an excess of outside finish.



The cross section through the shoulder and chuck again points up the superior muscling of the modern steer as compared to the old-fashioned steer. The modern steer also has a trimmer brisket with less fat.

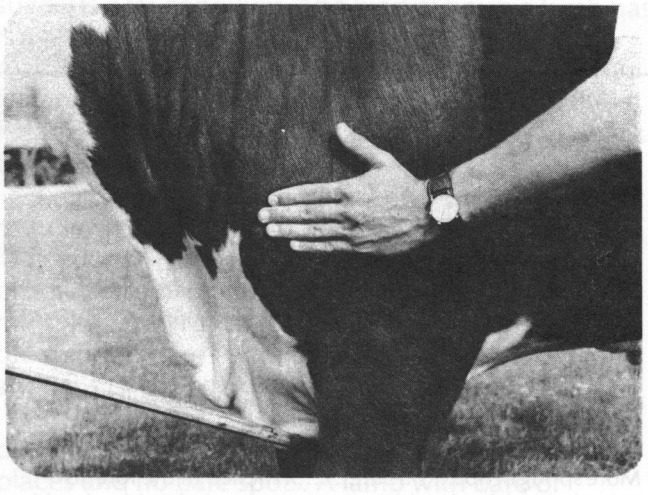


Check fat thickness over the top and backline.

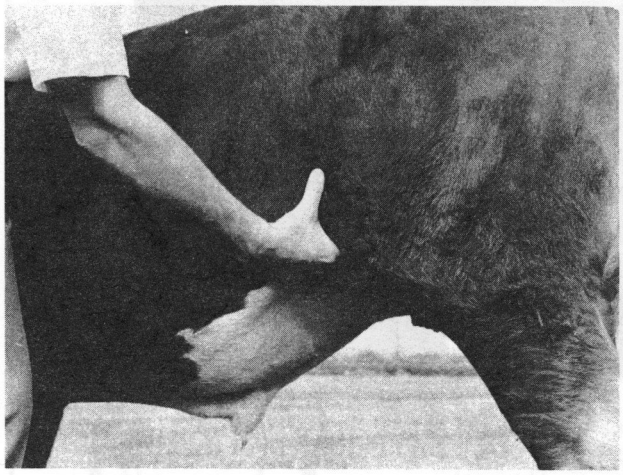


Determine finish over the ribs.

Check fat thickness at loin edge.



A good indication of muscling and fat thickness is at the point of the shoulder.



The fuller the rear flank, the fatter the animal.

Beef Judging Terms

Favorable	*Unfavorable*
Growthier	Small
Heavier muscled (meatier)	Light muscled
Thicker (beefier)	Narrow
Higher quality	Coarse, low quality
More balanced	Poorly balanced
More stylish	Plain
Smoother	Rough
More stretch	Upstanding; tall; rangy
Deeper rib	Shallow rib
Wider (thicker) top	Narrow top
More spring of rib	Pinched in the forerib
Fuller behind the shoulders	Narrow behind the shoulders
Wider (thicker) back	Narrow back
Thicker (wider) loin	Narrow loin
Thicker (wider, fuller) rump	Narrow rump
Longer rump	Short rump
A level rump	Sloping rump
More ideally finished	Overdone, excessively finished; too fat
More desirably finished	Thin; underfinished
Firmer finish	Soft finish
Trimmer	Wasty

Favorable	*Unfavorable*
Deeper twist	Shallow twist
Deeper quarter	Shallow quarter Light-muscled quarter
Fuller quarter	Narrow quarter
More bulging quarter	Flat quarter
Smoother handling	Rough handling
Thinner hide	Thick hide; heavy hide
Smooth shoulders	Rough (coarse) shoulders
Smoother top	Rough top
Smoother hooks	Rough hooks; out at the hooks
Smoother tail head	Rough tail head
Stronger top	Weak top
Tighter frame	Slack frame
Straighter lined	Uneven in lines
More uniform (more even) width	Uneven in width
Trimmer middle	Wasty middle, heavy middle
Trimmer, neater fronted	Wasty fronted
Would hang up a thicker carcass	Narrow carcass
Meatier carcass	Light-muscled carcass
Stretchier	Short body

Sheep

Evaluating sheep involves judging body conformation, just as with cattle. The main difference is that sheep are covered with wool and you must handle them to be sure what you are seeing is sheep and not wool. To evaluate sheep, you should become familiar with what an ideal sheep looks like, the parts of a sheep, and the wholesale cuts. These are illustrated in this section.

Market lambs

The important points to consider with lambs are (1) type, (2) conformation, (3) finish, and (4) muscling.

Type. Type is the combination of all those characteristics that make an animal useful for a specific purpose. A market lamb is used to produce meat. Therefore, we need to select a lamb that will produce a high percentage of high-quality meat. The short, compact, blocky lamb is definitely *not* the kind that will produce efficiently. According to our definition of type, we should select lambs that are relatively long-bodied, welll-muscled, strong-topped, strong in the legs, and wide through the loin and leg. All of these different, desirable characteristics must tie together in a manner that emphasizes the parts (wholesale cuts) that are of highest market value—those that are mostly muscle. A lamb should weigh about 100 to 125 pounds (45.5 to 56.8 kilograms) when marketed. Spring, milk-fed lambs should grade *Choice* and *Prime* and should be no older than 4 to 5 months. Lambs born in the late spring or summer and fed after they were weaned can be judged up to 1 year of age, but the weight should still be around 125 pounds (56.8 kilograms).

Conformation. Conformation is the manner in which the various parts of the animal are put together in relationship of one part of the animal's body to another. A lamb with desirable conformation is well muscled in the leg and loin, stands straight and square on its legs, is well muscled through the shoulder and forearm, is well balanced, and holds itself together when it stands, without "letting down" in the back.

A lamb that is short rumped, crooked legged, or short bodied lacks conformation because the relationship of the different parts of his body are not correct for meat production.

Finish. Finish is defined as the degree (amount) and distribution of fat cover. An acceptable lamb should have between 0.15 and 0.30 inches (4 to 8 millimeters) of back fat over the last rib. (This is about the thickness of a lead pencil.) The amount of finish (or fat covering) on a market lamb is very important from several standpoints. A desirable carcass should have a small amount of finish to cover the lean and allow it to be stored under refrigeration without dehydration or discoloration of the lean meat. Also, a small amount of fat is desirable to add juiciness and flavor to the meat. Too much external fat covering on live animals is undesirable. Large amounts of fat mean there will be waste when the lamb is processed for meat.

When judging market lambs, you must handle (feel) them to determine the amount of finish.

Handle the lamb over the ribs to check for fat covering there. Lambs that have large amounts of fat over the ribs are too fat.

The ribs should feel relatively smooth and firm. Another place to handle for finish is the point of the shoulder. This is the last place a lamb will deposit fat.

The *kind* of finish is also important, although not as important as the *amount*. A firm finish is desirable because firmness indicates muscling; softness often suggests a fat condition. The kind of finish a lamb has is a result of its breeding as well as the feeding and management practices. For example, an excessively fat lamb may still have a firm finish because of the feeding program, and possibly because the lamb has been exercised regularly.

Learn to tell the difference between hard fat and muscle. The best way to do this is to look for indications of muscling, such as size of leg and prominence of forearm. Look at these indicators of muscling, not from a dimension standpoint but from the standpoint of relative size to other parts of the animal's body (conformation).

The fat covering should be distributed uniformly over the lamb's body. There should be no "patchy" places and no bare spots. A lamb with bare or "blue" spots on its carcass is not accepted as well by the meat buyer because these bare spots will not keep under refrigeration as long as if they were covered with a small amount of fat.

Generally, the soft-feeling lambs are too fat, and the hard or firm lambs are usually the more muscular type. Occasionally, however, you will find an extremely fat lamb that is also firm.

Muscling. Muscling is important in lambs and all other market animals, because muscle is *meat* and excess fat is *waste.*

You have become a good judge of livestock when you learn to recognize muscle in live animals. Muscling in lambs is harder to see than muscling in hogs. Usually when you are judging sheep, they are standing still and are covered with wool, while hogs are slick haired and walk around.

A heavily muscled lamb is wider through the loin and leg than any other part of its body. The widest part of the lamb should be the middle part of the leg, as viewed from the rear.

Some people talk about "depth of loin." However, there is no way to measure the depth of loin muscle on a live lamb. You feel total muscle and fat.

The two most important parts of a market lamb are the leg and loin. These two wholesale cuts make up a very large percent of the sale value of a lamb carcass. The leg of lamb is the most important single wholesale cut. For this reason, much emphasis should be placed on lambs which have large, well-muscled legs and loin in relation to the rest of the body.

Placing a class of lambs. When you are placing a class of market lambs at a show or judging contest, follow this procedure: (1) Look at all the lambs from a side view. Get back far enough to see all the lambs at one time. (2) Look at all the lambs from the rear view. Again, get back far enough to see all the lambs at one time. (3) Place the lambs tentatively after these two views and *before* you handle them. (4) Handle the lambs and make any adjustments in your final placings that you think necessary.

The lamb you have placed first from the side and rear seldom will end up at the bottom of the class after you have handled. This is especially true if all the lambs have about the same amount of wool on them.

Breeding ewes

Judging breeding ewes is almost identical to judging beef cattle, except for the wool. The type, conformation, and muscling are the same as discussed for the market lambs. However, much less emphasis is placed upon finish. Much more emphasis is placed upon the actual skeletal structure of the ewe. Also, such characteristics as soundness, breed character, and style become more important.

Skeletal structure. Skeletal structure refers to the actual bone and muscle development of an animal, without regard to the amount of fat that covers it. A ewe that has correct skeletal structure is one that has ample bone, is strong and correct on her legs, and has natural width between her legs. If her skeletal structure is normal, when the ewe walks she should place her rear leg in the same spot that her front one left.

The ewe should be straight and strong in her top and should keep this strength when standing still. This indicates muscular condition and correct skeletal structure.

When handling the ewe, push down on her back slightly to check its strength. The front legs should be straight and placed at the corners. The pasterns should be relatively straight and should not bend excessively as the sheep walks or stands. The hind legs should be placed wide on the body. The distance between the hocks and the pasterns (as viewed from the rear) should be the same. When viewed from the side, the legs should be straight from the hock down. Feet and pasterns set up under the ewe too far indicates a weakness in the skeletal structure of the sheep. The region just above the hock being too straight (post-legged) is a serious skeletal defect.

Face and teeth. The ewe should have a feminine face and head and have the characteristics of the breed she represents. In general, the face should be relatively free of excess wool around the eyes to prevent wool blindness when the wool gets long.

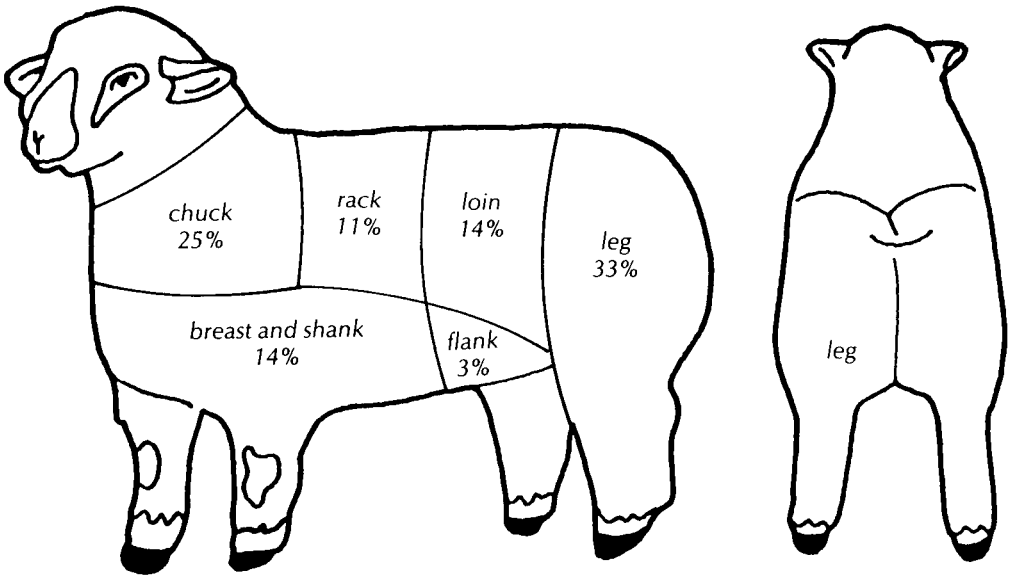
The front teeth, which are only in the lower jaw, should squarely meet the upper pad. A lower jaw that is too short or too long is an inherited defect and is a very serious unsoundness. Sheep without a properly shaped mouth will have difficulty in biting off grass.

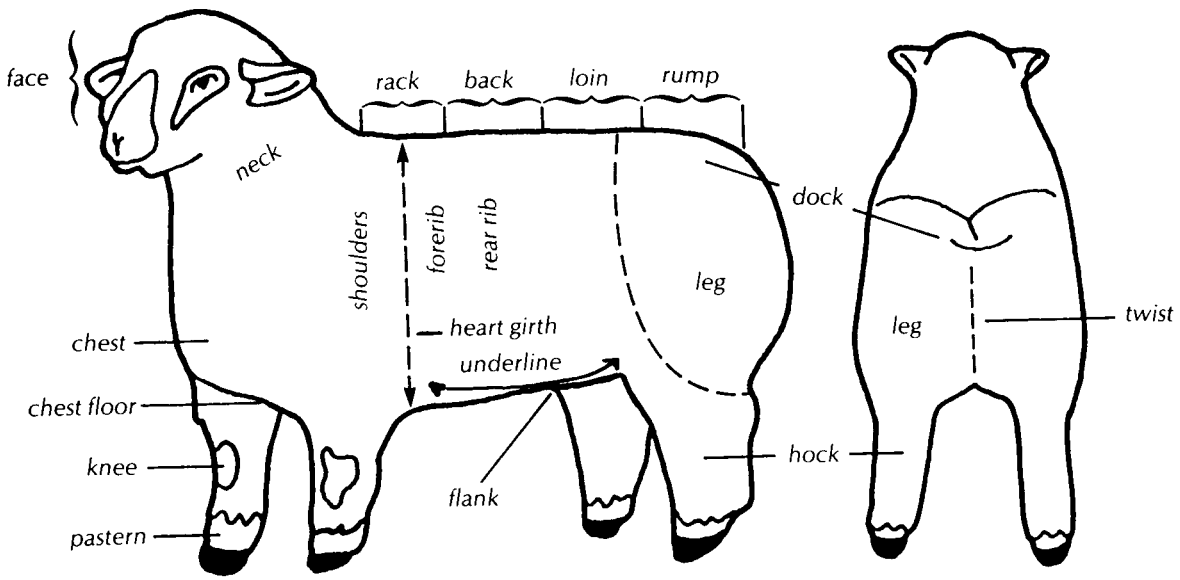
Rams

Rams are evaluated in the same manner as ewes. Rams should show masculinity. They should have two well-developed testicles. If a ram has only one testicle in the scrotum, he should go to the bottom of the class. This ram should not be used for breeding because the tendency for a testicle to be retained in the body is somewhat heritable.

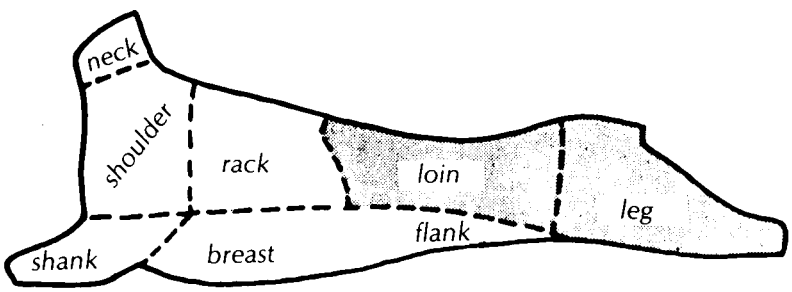
Wool

Breeding sheep should have a dense, long, clean fleece. Crimp-wrinkles in the fiber should be evident. Black fibers are objectionable in a fleece of white wool. Most long or fine-wool breeds are given 50 percent credit in placing for the fleece and 50 percent for body conformation.

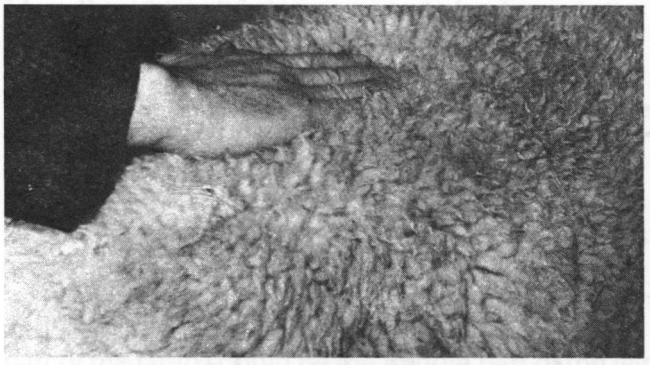




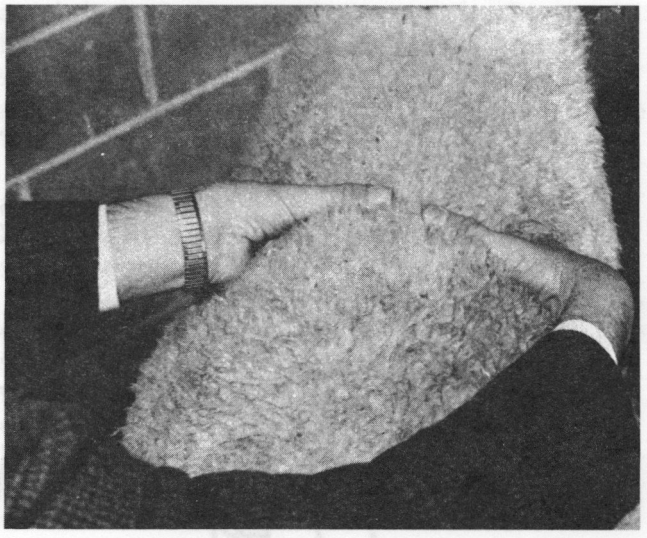
Ideal type sheep.



Wholesale cuts of sheep (the most valuable cuts are shaded).

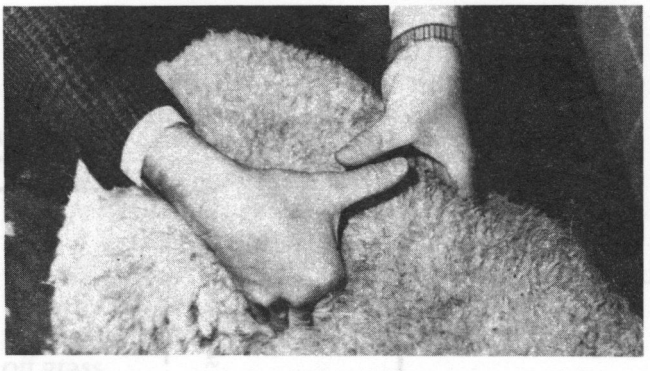


If you feel a sharp backbone while handling the lamb, it is thin. If the backbone is hard to feel, the lamb probably is too fat.

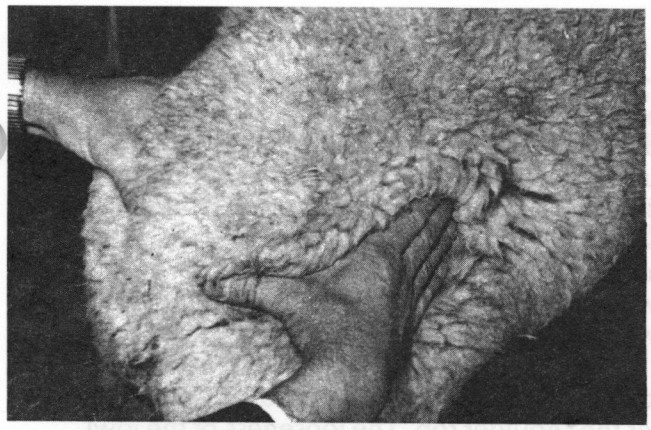


If the point of the shoulder is too fat, the lamb probably is too fat all over.

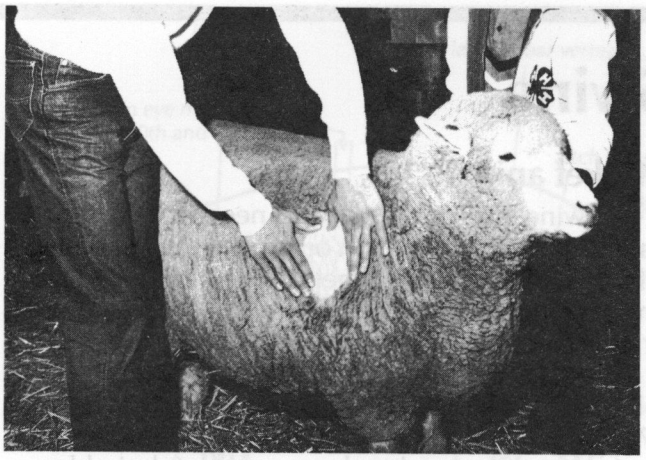
When handling the leg of a lamb, feel how large, firm, and muscular it is.



When feeling the loin on a lamb, measure its width and length and how sharp or smooth it is at the edge.



Measure length and width of the rump by handling as shown.



Examine the fleece for length, quality, and cleanness.

Sheep Judging Terms

Comparative Terms	*Criticisms*
General	
Typier	Off type
Heavier muscled	Light muscled
Thicker top	Narrow top
Well balanced	Poorly balanced
Greater spring of rib	Shallow ribbed
Wider rump	Narrow rump
Longer rump	Short rump
Level rumped	Sloping rump
Wider dock	Narrow dock
Deeper twist	Shallow twist
Thicker leg	Narrow leg
Plumper leg	Light leg
Smoother shoulder	Rough shoulders
Correctly set legs	Poorly set legs

Comparative Terms	*Criticisms*
Market lambs	
More uniformly finished	Uneven, patchy finish
Firmer finish	Softer finish
Trimmer middle	Wasty, heavy middle
Heavier-muscled carcass	Light-muscled carcass
Cleaner carcass	Wasty carcass
Cleaner fronted	Wasty fronted
Breeding sheep	
More breed character about the head	Plain head
More feminine head	Coarse head
Heavier boned	Lighter boned
Denser fleece	Open fleece

Swine

Market animals

In swine evaluation, you first need to learn the names of the major parts. You must also know the wholesale pork cuts and their relative value. Both are important in determining the value of a market hog or the potential merit of a breeding animal.

The ideal barrow must be a meat-type pig with a minimum of fat trim. A meat-type carcass will yield 37 percent or more ham and loin.

A meat-type slaughter hog carcass of desirable market weight should be at least 29.5 inches long (75 centimeters) as measured from the front of the first rib to the point of the aitch bone. The back fat should average less than 1.4 inches (36 millimeters) in depth. The loin eye should be 4.5 square inches (29 square centimeters) or more as measured between the 10th and 11th rib. Naturally you cannot measure this accurately on a live animal, but those are the standards and you should know them and be able to spot anatomical differences that would cause a major variance.

Conformation. Conformation is that combination of characteristics that makes the animal useful for a specific purpose. This includes the skeletal framework and muscling.

Modern-type hogs are long, have a well-muscled ham, adequate weight for age, heavy bone, moderate length of leg, and freedom from excess fat. Length in hogs is important because of its relationship to rapid growth rate and sow productivity.

Muscling. Muscling is a major point in judging market hogs or breeding animals. You must know the regions on a hog that indicate muscling. The ham is one of these points.

The ham should be the widest point of the pig, and the width should be in the lower ham. Heavy-muscled pigs are wide-walking and have their legs out on the corners of their body. These pigs should have heavy bone. Heavy-muscled pigs have a slight groove down their back and have an oval turn over the top, as viewed from the rear. Light-muscled animals are generally light boned. They are usually square topped, which indicates fat instead of muscle.

When viewing the animal from the front, the well-muscled animal will exhibit considerable muscle development in the shoulders. When the muscular animal walks, the muscles in the shoulder will bulge as they contract and relax. If the shoulder blades cannot be seen as the animal walks, it is generally pushing a heavy fat covering. A clean, firm jowl indicates proper finish while a loose, sloppy jowl is associated with excess fat.

The old-fashioned pig (page 18) is overfat as shown by the width over the shoulders and flatness over the shoulder top. The looseness of the jowl also indicates excess fat. The "meatless" pig shown is not overfinished, but lacks in proportion of muscle. This pig is narrow over the top of the shoulders. He is narrow between the legs. Fat thickness is not excessive but total muscle is lacking.

In looking over the top, the muscular pig shows greater width through the shoulders and through the ham as compared to the middle of the back. The overfat pig, old-fashioned type, is wider in the middle as compared to the shoulder or ham area. The meatless pig (see illustration) is rather even in width throughout, but lacking in overall width in all three general body regions.

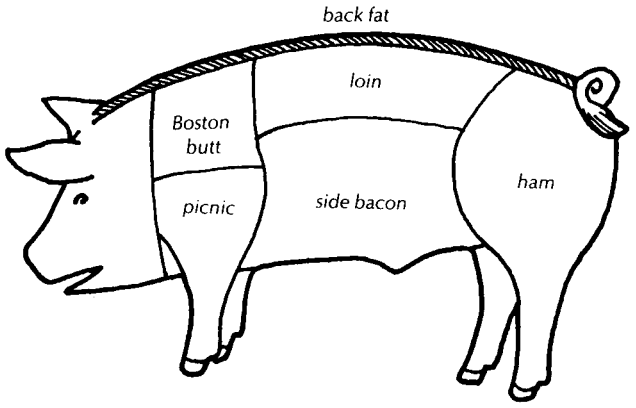
Finish. Even though a small amount of finish or fat is desirable, a large amount of fat creates excessive waste from trim, so it is undesirable.

An indication of wasty fat is softness and looseness in the lower ham. Overfinished pigs usually are soft and loose along the side, and often a roll of fat can be seen behind the shoulder. As previously mentioned, a thick, square top indicates overfinish.

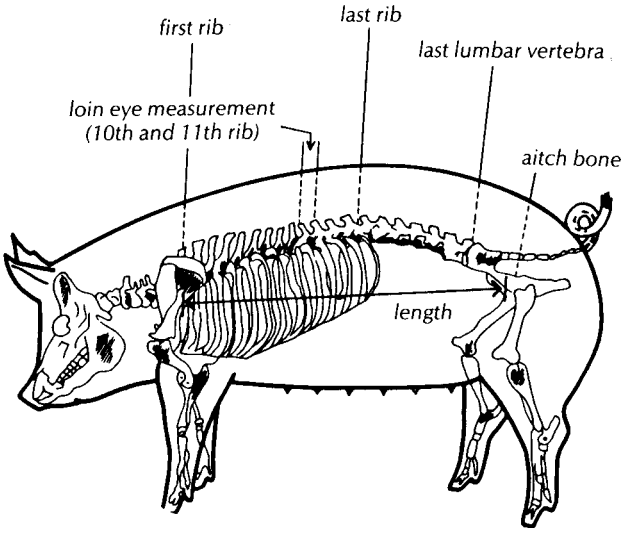
Balance. Balance implies correctness in structure and desirable proportion of body parts. The well-balanced hog will appear tight-framed, and all the body parts will be in the right proportion.

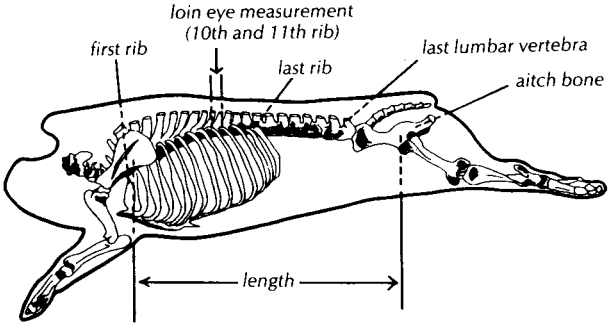
Breeding hogs

Breeding swine should have all the desirable qualities of market animals, plus more emphasis on structure, bone, feet and legs, breed and sex character, and underlines.

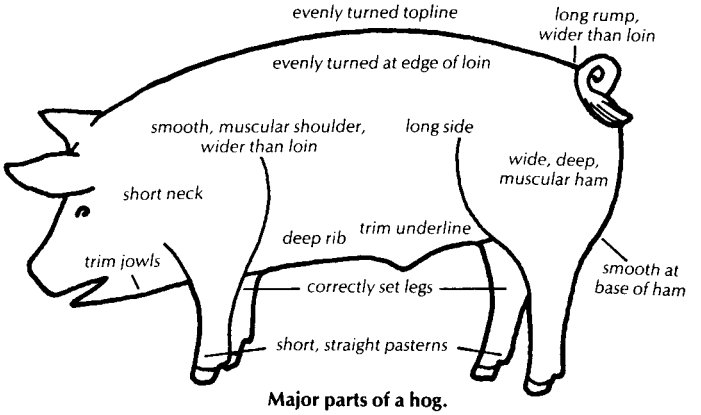


Wholesale cuts of a hog carcass.

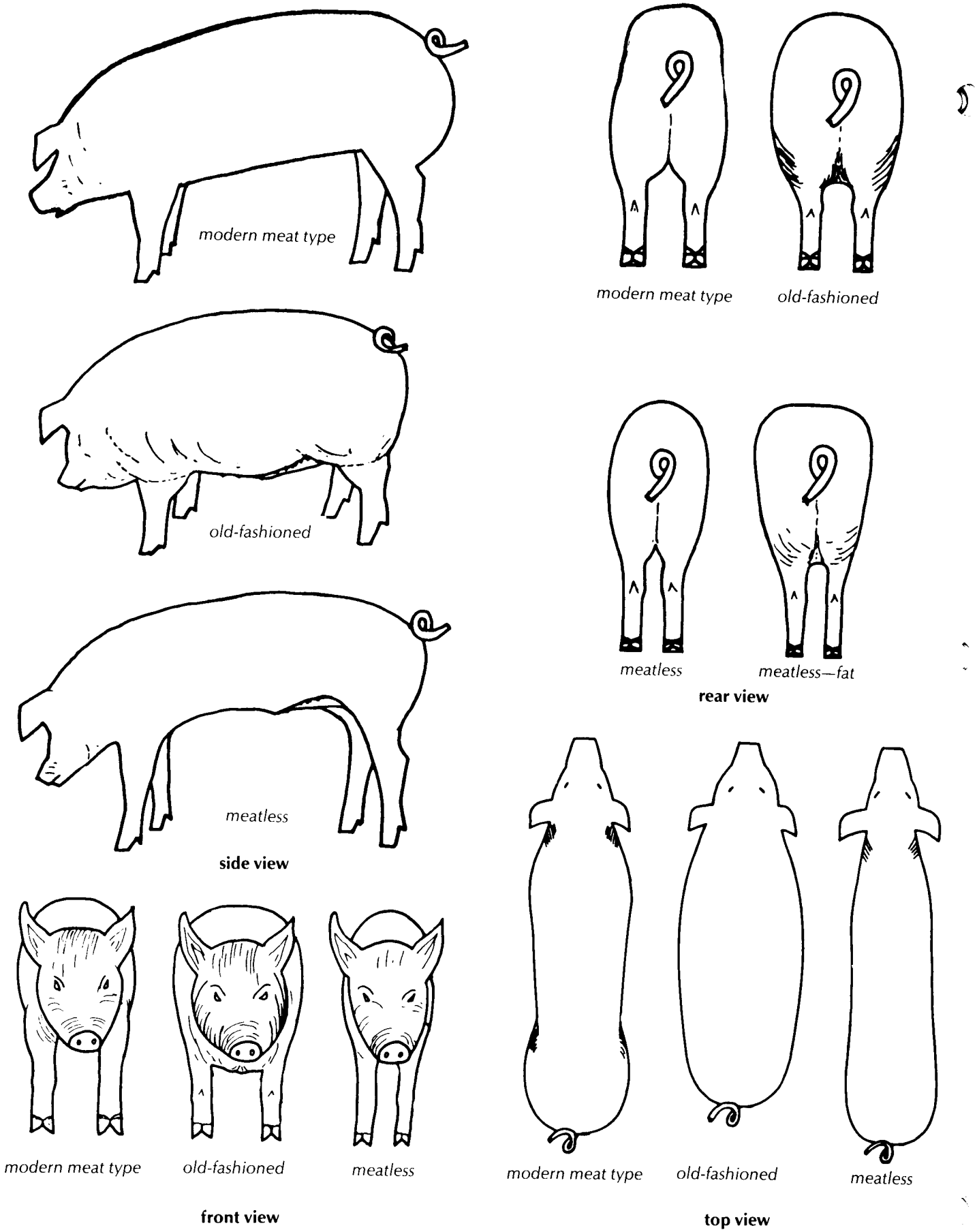




Measurement points for determining fat.



Major parts of a hog.



Side, front, rear, and top views of three hog types.

Structure, bone, feet and legs. Skeletal structure refers to the actual bone and muscle development without regard to the amount of fat. Excessive fat may interfere with reproductive ability. Hogs with sound skeletal structure are long-sided, wide-walking, heavy-boned, and have a correct set to the pasterns. There should be a nicely turned arch in the length of the back, and strong, correct feet and legs are essential.

Breed and sex character. Breed character is a combination of masculinity (boar) or femininity (sow or gilt) and the desired features of the particular breed involved. The head is a good indicator of breed character. Excessive muscling sometimes causes problems, reducing reproductive performance in females.

Underlines. The mammary development is an important factor in judging breeding hogs. Both boars and gilts should have at least 12 well-spaced nipples—6 or more on each side. In gilts, these nipples should be well-developed—free from blind or inverted nipples. Always inspect the underline closely in evaluating an animal or judging breeding classes.

Size and growth. Size in breeding hogs is extremely important. Boars or gilts must have the ability to grow fast in order to reproduce market animals that will reach 200 pounds (90 kilograms) or more in 140 days. Short, small-framed breeding animals will not produce large, fast-growing pigs. Small-framed animals usually have small litters.

Hog Judging Terms

Comparative Terms	*Criticisms*
General	
Typier	Off type
Longer, stretchier	Short sided
Meatier	Light muscled
Balanced	Lacks balance
Firmer	Soft
Cleaner top	Too fat over top
Smoother side	Wrinkled side
Heavier muscled ham	Light muscled ham
Plumper ham	Flat ham
More uniform arch	Uneven arch
Stronger top	Weak top
Level rumped	Steep rumped
Trimmer jowl	Wasty jowl
Tighter frame	Loose frame
Neater, cleaner twist	Too full in twist
Market hogs	
Trimmer carcass	Wasty carcass
Meatier carcass	Light muscled carcass
Trimmer middle	Wasty middle
High percent of lean cuts	Low percent of lean cuts
Longer, cleaner carcass	Short, fat carcass
Breeding hogs	
Cleaner head	Coarser headed
More prominent underline	Lacked development of underline
More evenly spaced teats	Unevenly spaced teats
Heavier bone	Light bone
Stronger pasterns	Weak pasterns

Evaluation and Judging Contest

Why we judge: decision making and defending our decisions

Evaluating and judging animals is a valuable experience for every boy and girl to learn the principles of animal selection. Through evaluation and judging you learn to:

- Obtain up-to-date information.
- Make accurate observations.
- Weigh and balance for comparison.
- Arrive at a definite conclusion, which is a judgment.

In evaluating animals you apply these principles as you carefully analyze and weigh the points of the animals you are judging against the standard or ideal type.

Before you start evaluating livestock, try to make a mental picture of the perfect animal. You can do this by recalling the most desirable features of the best animals you have seen, and thinking of them as belonging to one animal. Study pictures of ideal animals of various breeds. Make outline drawings of the animals, draw in the retail cuts, then visit your grocery store and compare the price of each for these retail cuts. This will help you understand why the *ideal* animal is the one with the highest proportion of desirable, high-value cuts.

Learn from pictures or live animals all the parts of these animals and be able to identify them on the live animals. This will add to your storehouse of useful, understandable livestock terms needed in giving reasons, as well as talking livestock to others.

When you master these things, you are ready to start placing classes.

Develop a system as you learn to judge. When you first see a class, get a good comparison of the animals.

You can place the class better from a distance—or far enough away to see all the animals at one time. Become skilled in placing the classes from a distance and handle the animals only to check your observations. It is a mistake to place a class only with the hands, except for market lambs, which are placed with more emphasis on handling. Hogs are judged in a pen. Someone moves the pigs so you can see all views. Stay a distance of 15 feet away to obtain an overall view. From this distance, study the class from the rear, the front, and the side. Compare the animals with your "ideal" and decide which one is more like it. Then compare each animal with every other. As you compare the animals in the class, look at the same part of all the animals. For example, decide which hog has the largest ham by looking at the hams of all the hogs, one right after the other.

Learn to study the animals carefully. Look especially at the parts where we get the high-priced cuts. A keen judge of livestock is orderly—never haphazard. Note the important things and make your placings accordingly—be practical!

In the 4-H contest system, we use four animals in each class. As you judge, you divide them into combinations of three pairs: choosing those you pick as the top pair, the middle pair, and the bottom pair. You make comparisons between the various pairs. Really, as you look at any class, you have *five* animals in mind: the four in the class and the ideal animal in your mind.

Remember, your first impression is usually the best.

In any contest, do your own work. Learn to depend upon your own judgment and not someone else's. If you want other people to have confidence in you, you must have confidence in yourself. You can improve your judging ability only by making your own decisions.

Be courteous. Do not crowd out other judging contestants.

The mechanics of judging

In most evaluation contests or clinics, four animals are used in each class. They are numbered 1, 2, 3, 4. Three views are observed (rear, side, front). Looking at cattle and sheep from the rear, number 1 is on the left and number 4 is on the right. In swine judging, each animal is identified with a number of chalk marks on the back.

A keen judge is orderly and develops a system of analyzing each class. Begin by viewing the class from a distance of about 25 feet (7½ meters) or far enough away to see all four animals at one time. Analyze the class and classify the animals into three pairs: a top pair, a middle pair, and a bottom pair. Then compare these pairs to each other and to a breed ideal.

To simplify judging, make the easiest placing first—pick the top animal or the bottom animal or any pair of animals. Study the animals for 3 or 4 minutes and get a good impression of the class as a

whole. Usually beef cattle are walked. As the class is walked, check especially for soundness of feet and legs. You may be able to size up the class at this time, because cattle usually look the most natural when walking.

It takes both careful observation and proper handling to do the best job of determining the degree and smoothness of finish or condition. Study individual animals at close range and handle each one. This procedure will help you make comparisons of finish in market classes and of conditon or natural fleshing in breeding classes.

Study the *whole* animal carefully. Do not try to place on little things. Instead, locate the "high-priced cuts" that are closely related to the economics of livestock production.

When you have completed your visual and handling evaluation, write your notes or reasons.

Procedures for judging

View the animals from the side. A side view tells you size and scale, length of body, length of rump, depth and meatiness of quarter, trimness of middle and flank, length of leg, and something about the skeletal structure and overall balance.

The rear view shows you the width of the top and loin, width of the rump, width of the lower round, and an indication of muscling—especially in the rear quarter. Other traits seen from this view are muscle structure of the rear quarters and fat in the cod area.

The front view shows mainly trimness in the brisket, trimness of the neck, and soundness of the skeletal structure of the front legs, as well as characteristics of the face and head.

The walking view gives indication of trimness, skeletal structure, and muscling, as well as strength of back, length, depth, and balance of body. You can place most cattle, sheep, and swine by sight only, but judges often handle market steers and sheep to get an indication of cover and muscling. Fat is soft. Muscle is hard and bunches in movement. An excessively fat animal has "loose" skin movement. Patchy fat is not desired. A smooth, firm finish is ideal.

If you want to handle the animal, approach from the side and be sure that the animal sees you approach so you don't scare it. The area to be handled is the loin, rump, ribs, and shoulder. On lambs, handle to determine the size of the leg, too. Handle each animal the same way, in the same area. Avoid excessive handling. The main thing to feel is the amount of fat over the ribs and the depth of fleshing over the loin, through the rump, and in the crops.

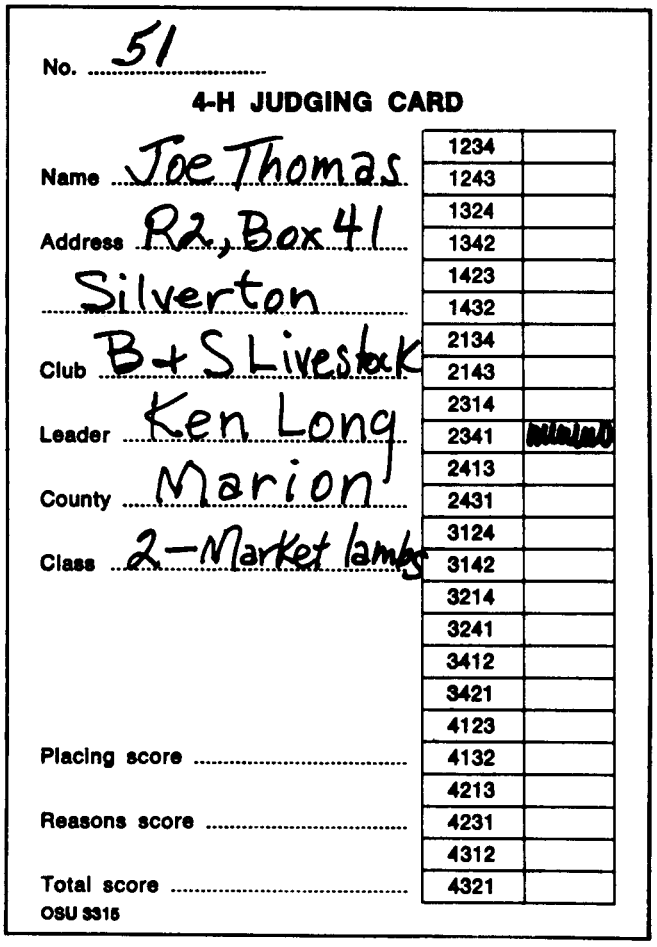
Entering a judging contest. In a livestock evaluation contest, you will judge classes of beef, sheep, swine, and occasionally feed, dairy, meat, and other agricultural products. There are times when the dairy and meat animal contests are held separately. You may judge either market or breeding classes, or both.

The way you place your animals will influence your judging-ability score. If you miss one pair, or two pairs, or make other placing errors, your score is determined in proportion to the seriousness of the error made.

In many evaluation activites, you will have the opportunity to give reasons (explain your placings to the judge). He will score you on organization, presentation, and accuracy of your reasons. Detailed information on reasons can be found in the "reasons" section of this guide.

In any 4-H Evaluation Contest, you will be given a card for each class. It will have your contestant number on it, or you will be given instructions on this point.

Be sure each card you turn in for each class is marked and that you have listed the name of the class. Always follow the instructions of your group leader carefully.



Several types of placing cards are used. In Oregon 4-H contests, a set of score cards is used. The first card is for registering information. The remainder, one for each group of four animals, are for you to record your placing. Write in the class, name, and the correct placing as illustrated (2-3-4-1).

When you walk up to each class of livestock, write the name of the class on your card. When your group leader asks that cards be turned in, check your placing to be sure your card is marked correctly, and if it is a reason class, that it is identical to the placing you have in your notes.

Giving reasons

You state reasons in order to compare the differences in the animals you evaluated. In a judging contest, make your reasons impressive, interesting, and sincere. Be confident as you give them. Reasons may be required, orally or in writing. The same principles apply to both. Make your reasons brief; place emphasis on the big or main points in the class. The prime point you want to make is *why* you placed one animal over the other. Through comparison, you tell "why." You can describe until you are out of breath, but if you do not *compare,* you will have wasted your time and energy.

Have something to say. Say it as though you mean it.

Practice giving reasons. It will help you:

- Think more clearly.
- State your thoughts more expertly.
- Improve your appearance to give you speaking poise.
- Improve your voice.
- Develop your memory.

Don't be afraid. To overcome your fear of speaking and giving reasons:

- Know more about your subject than anyone else in the audience.
- Make yourself master of words you use.
- Use correct grammar.
- Give attention to your appearance.
- Speak slowly and articulate plainly. Speaking rapidly comes with practice.

Let your eyes help. Use your eyes to help you speak effectively. They are most useful in telling your meaning. They help you keep the interest of the person or audience to whom you are speaking. They add emphasis to your voice. Look the judge straight in the eye when you give oral reasons.

Think of the animals. You are less likely to forget your reasons when you are thinking of the animals. Your reasons are more convincing. Reasons should not be memorized. However, you should train your mind to hold a mental picture of the animals and remember the strong and weak points of each.

Making notes. A good evaluator will visualize a class of animals in his mind. Notes of what you observed are helpful in remembering each animal in the class.

Make short, simple notes, using comparative terms. List main points of comparison first then add details of each pair.

A useful way to take notes is shown. Put the name of the class on the top line. List your placing on the second line. Next, it is a good idea to make a note of one or two characteristics of each animal to help you remember it. Follow this with your placing using fractions for the top, middle, and bottom pairs. For example, if your placing is 2-3-4-1, the fraction 2/3 shows you 2 placed over 3. The fraction 3/2 would indicate the advantage of 3 over 2 even though you placed 2 higher. There might be additional points about an animal you wish to mention so note them as criticisms.

Organizing your reasons. The organization of a set of reasons largely determines how easily your reasons follow. There are many different systems of organizing reasons. The system presented here is logical and easily understood. Following is a basic organization outline for an entire set of reasons and comments on the specific topics.

Outline for a set of reasons. In giving reasons, a class of four animals is divided into three pairs; a top pair, a middle pair and a bottom pair. The basic outline for an entire set of reasons (for a placing of 1-2-3-4) is as follows:

1. Give name of class and how you paired it.

Top pair

2. Reasons for placing 1 over 2 using *comparative* terms.
3. Faults (criticisms) of 1, if any. Usually the most glaring faults should be mentioned on this, the top animal in the class. Comparative or descriptive terms may be used.
4. Pointing out advantages of 2 over 1 in *comparative* terms.

Middle pair

5. Reasons for placing 2 over 3.
6. Faults of 2 if any.
7. Advantages of 3 over 2.

Bottom pair

8. Reasons for placing 3 over 4.
9. Faults of 3.
10. Advantages of 4 over 3.

Concluding statement

11. Reasons for placing 4 last.
12. Faults of 4.

Using this outline, consider each point.

Step 1: For purposes of discussion, assume that a class of market steers is being judged. Your opening statement might be, "I placed this class of market steers 1-2-3-4."

Step 2: In your reasons for placing 1 over 2 you might say, "I placed 1 at the top of this class and over 2," completing the sentence by giving two to four reasons why 1 was placed over 2. A clear, strong, opening statement is important.

a. For example, "because 1 is a more heavily muscled, thicker, meatier, and higher yielding steer."
b. Don't use too many terms together: it may become difficult for a listener to evaluate all you have said.
c. Develop a good opening statement for each pair. Like the lead sentence in a good news story, it should give the main points first.
d. After giving your general opening statement, go into more detail on the top pair. About three complete sentences are desirable. Be specific. In market classes (steers, barrows, wethers), point out differences in carcass cutout value of the higher and the lower animal.

Step 3: The fault statement should follow your reasons for placing 1 over 2. "I fault 1 for being somewhat patchy in his finish —."

Step 4: The statement pointing out the advantages of the animal placing lower may be combined into a single sentence with fault statement above by saying, "—However 2 is a larger and smoother finished steer than 1."

Step 5: The next step is to introduce the middle pair by saying, "Now, coming to my middle pair, I placed 2 over 3 because —." After a strong opening statement on this pair, go into detail as suggested above for the top pair.

Steps 6 and 7: Then give the faults (if any) of 2 and the advantages of 3 over 2. For example, "I fault 2 for being low fronted and wasty in the brisket, although 3 is a trimmer, cleaner, and more stylish steer than 2."

Steps 8, 9, and 10: The same procedure is used on the bottom pair as on the top and middle pairs. For emphasis, the bottom pair might be introduced as follows, "Now, in regard to my bottom pair, 3 and 4, I placed 3 over 4 because —.

Steps 11 and 12: Complete your reasons with a strong closing statement. For example, "I placed 4 last and at the bottom of this class because he lacked muscling, quality, and the desired degree of finish in a market steer." One or two more sentences giving specific reasons for placing 4 last could be concluded by saying, "I fault 4 for being narrow and flat quartered, which will hang up the least desirable carcass in this class."

You may wish to conclude your reasons by saying, "For these reasons, I placed this class of market steers 1-2-3-4." This is not essential but may be helpful until you develop skill in giving reasons.

Notice in the above examples that short, complete, clear sentences are used. Reasons must be given in short sentences rather than phrases. Errors in grammar can spoil an otherwise good job of judging.

Written reasons. When writing reasons, follow the same basic ideas as outlined for oral reasons. Also remember the following points:

1. Write or print neatly.
2. Use short, complete sentences.
3. Spell words correctly.
4. Bring a clipboard and pencil to the contest. Pencils allow corrections when they are needed and a clipboard is handy to hold your cards and use while writing.

How good are your reasons? The value of your reasons will be determined by:

Content. What did you say?

Accuracy. Be truthful and accurate. Inaccurate statements have no place in reasons.

Emphasis. Stress the major differences more than the lesser ones.

Comparison. Always compare animals to each other.

Completeness. Bring out all major differences in your reasons. Omit any difference that is so small it leaves room for doubt.

Terms. Use correct terms. Improper terms weaken reasons.

Delivery. Organize your reasons in logical order—from most important to least important. Tell them in a pleasing voice.

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