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The Modern Steer: Could You Tell One If you Saw One?

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Beef

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The text of this publication along with the illustrations point out the distinguishing characteristics of a modern steer (Animal A) and a steer of the past (Animal B). The drawings, illustrations and explanations pertain to the characteristics of bone structure and muscle development in regard to the modern steer and the steer of the past. The points and areas of the beef animal that can be used as indicators of muscling are illustrated and pointed out. However, some of the areas that are indicators of excessive finish are not pointed out but are listed at this time. The point of the shoulder, the hip or hook bone and the back bone or vertebral column are all bones that have only a small amount of tendon and skin covering over them. As an animal fattens, a layer of fat forms between the tendon and skin layer. When an animal is handled in these areas, everything under the hide is finish or fat. The top of the shoulders, the fore-rib, the rear-rib, the loin edge, the flank, the elbow pocket, the brisket and the cod areas are all areas that can be used to determine the amount of finish a beef animal is carrying at one phase or another during the fattening period.

This information is based on research findings and practical experience and can be used by those that evaluate and appraise modern day beef cattle. The information presented herein can be used as a tool to help breeders, feeders, packers and professional cattlemen select the big, stout, fast growing, heavy-muscled beef cattle that carry a minimum amount of outside fat cover. These are the cattle we need to seek, find and breed. Only visual appraisal with the keenest eyes and the sharpest minds along with performance records can insure the beef cattle industry of the modern kind for years to come.
FRONT VIEW

A. Animal A shows muscle development in the shoulder (1) and forearm area (2). These areas can be used as areas of muscle indication. There will be a certain amount of judgment involved in determining whether the shoulders are coarse and prominent due to the actual skeletal structure of the animal in question or if the shoulder and forearm areas indicate extreme muscle development.

The cannon bone area (3) is one of the most accurate and quickest indicators of bone size and substance of an animal. Research data shows that heavier boned animals have more muscle. In other words, there is a positive relationship between bone size or substance and muscling of cattle.

The brisket and dewlap area (4) is clean and trim and in no way indicates excessive finish.

B. Animal B fails to exhibit the muscular appearance of Animal A. An animal of this kind may be as muscular as Animal A, but excessive finish will conceal extreme muscle development; however, in most cases animals of this appearance (B) are
usually light muscled and excessively finished. Animal B does not show an abundance of muscling in the shoulder (1) and forearm area (2). If it does have muscling it is concealed by excessive finish. At any rate, the muscle seams are filled with fat to give the animal the smooth appearance that livestock evaluators have desired for many years. The animal is smooth only because it is relatively light muscled, and the muscle seams have been filled with fat to bring out the smooth effect.

Animal B is relatively light boned (3) which would tend to go along with the lack of muscling mentioned previously. The brisket and dewlap area (4) of Animal B are extremely full and rounded - this is nothing but fat or waste as there is very little muscle found in this area of the carcass from a beef animal. Animals that indicate excessive fat deposits in these areas usually yield carcasses that are plenty fat both internally and externally.

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TOP VIEW

- A. Animal A indicates muscling in the shoulder area (1) from this view as well as from the front view.

Animal A is not full and smooth back of the shoulders (1) in the heart girth or fore-rib area (2). This has been a misnomer for many years. The skeletal structure and muscle development does not permit an animal to be smooth in its appearance in this area. Once again the smooth, full heart girth is smooth and full because of excessive finish. A muscular animal that is properly finished should not be required to be extremely neat shouldered and full in the heart girth. Notice the spring to the rear rib (3) and the length and thickness from the hook or hip bones to the pin bones (5) in drawing A which represents the modern type. The modern cattle can be big, long and growthy, but they will still need to have thickness and spread over the top and through the rear quarters. The hook or hip bone (4) should be set forward as far as possible and the pin bones should be set high and wide to allow the animal to have the maximum amount of muscle in the rear quarters. The term commonly used to describe this area in either a live animal or its carcass is length of rump or length from the hooks to the pins. An animal that has a long rump should also possess length through the rib section to help balance or correlate the body parts.

The thickest part of Animal A’s body is through the center of the rear quarters. This is the greatest muscle mass in the animal’s body and if an animal is meaty and muscular, the rear quarter area should well be the thickest portion of the animal when viewed from either the top or rear. Note the wedge shape of Animal A, with the narrower portion through the fore-rib and the thick portion through the center of the rear quarter.
B. Animal B possesses uniform thickness from front to rear. The terms commonly used to describe an animal of this type are smooth and uniform. Animal A does not exhibit a great deal of muscling in the shoulder area (1) and is very smooth in the heart girth or fore-rib area (2). Animals that take on this general appearance usually carry excessive amounts of fat over the fore-rib and shoulder and also have heavy fat deposits in the elbow pocket.

There is no added expression or spring to the rear-rib (3) of Animal B. The thickest part of Animal B is in the middle of its body and this is the area of the animal where the least red meat or muscle is located. Animal B is short and tapered from the hooks to the pins. The short tapering appearance from the hooks to the pins is quite often associated with animals that are short bodied, light muscled and over finished. Note the overall general appearance of Animal B from the top view. Animal B in comparison to Animal A could best be described in the following manner: B is a shorter, shovelled together, closer coupled, lighter muscled animal than A that shows excessive finish over the shoulder and fore-rib. B is heavier-middled and shorter rumped than A and in general needs more length, stretch, trimness and muscling to compare with Animal A.
SIDEx VIEW

A. Animal A is clean and free of extra leather in the throat area (1), clean and neat in the brisket and dewlap (2) and shows extreme muscle development in the forearm area (3). Note the substance of bone (4) that animal A possesses in the cannon bone area; as mentioned previously, large bone size is positively related with muscling. Animal A is very clean and neat in the middle (5) and at the same time shows extreme length of middle. This could well be referred to as a very tight middle and a clean long underline. Animal A is tucked up a bit in the rear flank (6) which is quite acceptable under present day evaluation standards. In past years it was practically unknown for a champion animal not to have a deep full flank. Research has yielded considerable evidence that this extra depth and fullness in the flank was due to nothing but fat - waste.

Note the straight hind leg (7) of Animal A. Although not essential, a straight hind leg helps an animal express and display its muscling and correctness. Animal A does not have the extremely deep bulging rear quarter (8) desired by livestock (cattle) evaluators in the past. Once again the skeletal structure and muscle development does not permit an animal to have the extreme depth and bulge to the rear quarter that was desired in the past. This is a highly unnatural condition and is mainly brought about by excessive fat deposits in the area of the cushion of the round.

Note that Animal A is not as neatly laid in at the tailhead (9) as one might like; but again the muscle structure and skeletal development simply do not lend themselves to natural smoothness in this area. A meaty, muscular, desirably finished steer might tend to be slightly plain around the tailhead, but remember in most cases that extra fat makes an animal smooth, and this is no exception. Animal A has a very long, straight topline (10) which is a desirable characteristic in modern day cattle. Usually strength of top is related to above average muscling throughout the body especially when it is found in an animal that possesses the body length that Animal A exhibits.

B. Animal B shows excessive leather and finish in the throat area (1) and is extremely full and heavy in the brisket (2). This extreme fullness in the brisket area is practically all waste and is highly undesirable from the retailers' standpoint. Animal B does not show extreme muscle development in the forearm area (3). Animal B exhibits average or less than average bone size in the cannon bone area (4) which might tend to indicate the lack of muscling mentioned previously for this animal.

Note the extremely deep side exhibited by Animal B. This is mainly due to excessive waste and flab all along the underline (5) and into the flank area (6). When animals fatten, they can only deposit so much fat within their muscles (intramuscular) and the
remainder is deposited on the outside or between muscles (intermuscular). This is why the extra depth displayed by Animal A is mainly due to extra flab and waste fat rather than red meat and muscle. There is very little muscle in the lower half of the mid-section of cattle, so the extra depth is of very little value.

Note that the rear leg (7) of Animal B is slightly curved and set under its body. The hock is large and somewhat puffy. Animal B possesses a very deep bulging rear quarter (8) and extremely large deposits of fat on the cushion of the round are mainly responsible for this appearance. Research results have shown that this depth and bulge is mainly fat and really gives a false impression of red meat and muscle development in the lower round area.
Animal B is also very neatly laid in around the tailhead (9), which is due to excessive fat deposits that give this smooth full appearance. The skeletal muscles do not come up around the tailhead to create this smooth neat appearance so once again livestock evalu-
ators of the past were fooled by fat. Many times the desire to have a pretty animal has resulted in an animal being over-finished to give it the smooth, full appearance. Note that Animal B is slightly weak in the topline (10) and has a much shorter topline than Animal A.

Animal B might be described as a somewhat old-fashioned, short-bodied, deep-sided, over-finished, light muscled, wasty steer in comparison to Animal A.

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**REAR VIEW**

- **A.** Animal A is slightly rough around the tailhead (1) which simply means that excessive amounts of finish have not been deposited on either side of the tailhead to give it the smooth neat appearance desired in the past. Note the extreme muscle development and expression in the rear quarter (2). The stifle muscle area is the thick-
est part of the animal and should be deep, bulging and ex-
pressive. A muscular beef animal should have muscles that flex upon movement and bulge and express themselves upon stimulation. Note the muscle seams can still be seen in Animal A both in the inner and outer round. Animal A exhibits the heavy bone and straight legs (3) which are characteristic of most muscular modern day cattle. Note that Animal A is "cut up" in the twist, so to speak; using critical terminology of the past. The deep full twist commonly referred to in the past was a result of fat-waste. During the feeding period, fat deposits early in the twist and cod area. Note that Animal A is clean and neat in the twist and cod area (4) and exhibits an excessive amount of muscle.

Note the "set" to the feet and legs of Animal A. The feet (5) are set wide and out on the corners of the body. Animals that are heavy muscled must have wide set legs and thickness between them to carry the vast amounts of red meat and muscle tissue. This is portrayed in the drawing represented by Animal A.

- **B.** Animal B has a counter sunken-tailhead (1) that is surrounded by excessive fat de-
posits. The fat deposits give the tailhead a neat smooth looking effect. Animal B lacks muscle development and expression in the stifle muscle area (2). Note the "pear" shaped round of Animal B. This type of muscle structure is usually found in light-
muscled, over-fat animals. The presence of muscle seams cannot be found in the round of Animal B, which would indicate that the seams have been filled with excessive amounts of fat which give the rear quarters a round smooth appearance. Animal B has a rather square look when compared to the round, shapely, symmetrical appearance of Animal A. The square look can be used as an indication of excessive finish.
Note the average bone size (3) displayed by Animal B which is usually associated with light muscled cattle. Animal B possesses a deep full twist and a very full cod (4). This area is loaded with fat which is highly responsible for the deep full looking appearance. The muscle structure in the twist and inner thigh area in no way forms and develops to give the deep full look displayed by Animal B.

Note the feet and legs (5) of Animal B are set close together under the center of the body. The close set of the feet and legs usually indicates a lack of muscle in animals that possess this characteristic. Animals that have this appearance and lack muscling tend to fatten faster and thus become the over-finished, light muscled cattle that are undesirable according to present day evaluation standards.