

## CHANGES IN TYPE SINCE 1900

Don Good

### Beef Cattle

America owes a great deal to the founders of the Hereford, Angus, and Shorthorn breeds of beef cattle, the dominant U.S. beef breeds. Early Scotch and English breeders in developing the beef breeds aimed to breed cattle with superior beef quality. This, by necessity, had to be done under, in many instances, vigorous environmental conditions.

Purebred beef bulls have tremendously influenced improvement of beef cattle over the past 50 to 60 years. They have been primarily responsible for the change from the "Longhorn" to the present-day, prime beef steer.

The Shorthorn breed was the first to be used to improve Longhorn range cattle. Captain King took Shorthorn bulls to Texas when he established King Ranch and the Mormons moved Shorthorn cattle with them when they migrated to Utah from Missouri. These first two attempts to improve range cattle occurred from 1890 to 1900. Later, Hereford cattle were used extensively and played the major role in range cattle improvement. Still later, Angus cattle came to the range country and all three breeds are presently being used to improve market cattle. Now, instead of marketing four- to five-year-old, 1400- to 1800-pound slaughter cattle, we market 800- to 1100-pound choice to prime cattle at the age of 12 to 20 months.

This drastic change altered size and type of cattle from larger, rangier, growthier, rougher, more angular cattle to today's smaller, shorter legged, more compact, higher quality, smoother, earlier maturing cattle. Shamrock, the 1902 International Grand Champion Angus steer, weighed 1790 pounds, was three years old and sold for 56¢ a pound. Wood's Principal, a Hereford steer, was Grand Champion at Chicago in 1901.

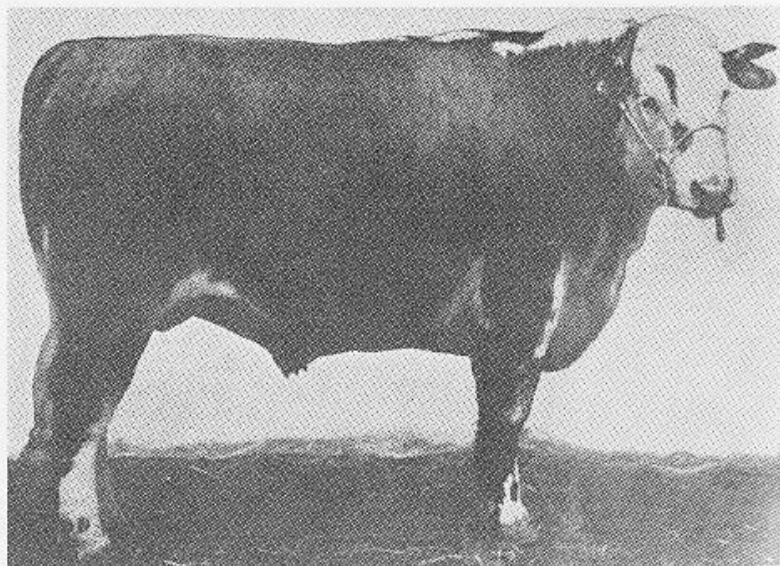


Fig. 1. Champion Hereford Angus crossbred steer, 1903; age, almost 3 years; weight, 1730 pounds. (No carcass information.)

(6)

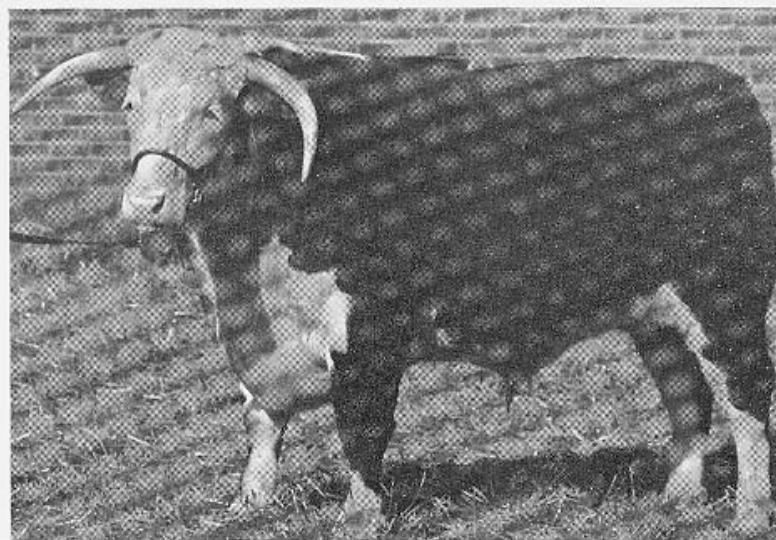


Fig. 2. Champion at many shows, 2-year-old Hereford steer, 1919; weight, 1575 pounds. (No carcass information.)

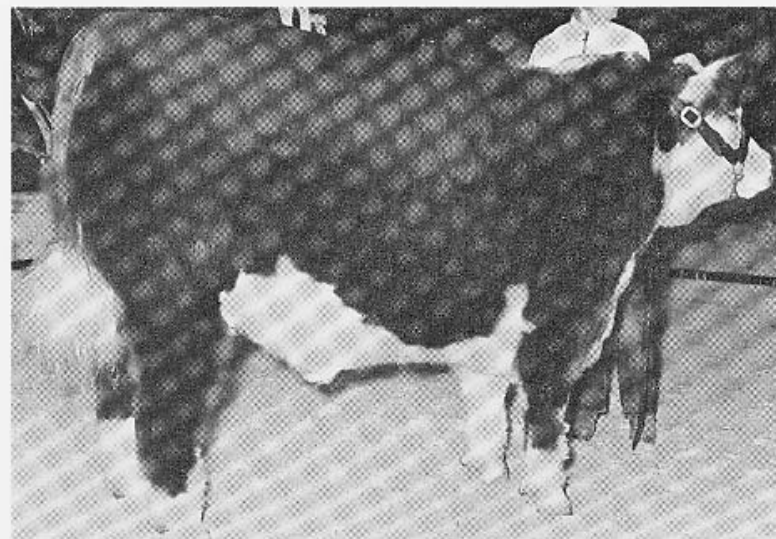


Fig. 3. Champion Hereford steer, 1963; weight, 975 pounds; age, 13 months; yield, 67.3%; rib eye area, 12.9 sq. in.; carcass weight per day of age, 1.68 pounds; grade, top choice.

(7)

He was two years old, weighed 1645 pounds and sold for 50¢ a pound. Since then, gradually younger, lighter weight, smoother cattle have been winning the shows and have received a premium at the market.

Consumer demand brought about the change. Homemakers have very definite ideas about the dimensions of roasts and steaks they buy. As a general rule they want a definite number of servings for the money they expect to spend. They don't want three steaks for four people. They want a separate steak for each member of the family or for each guest. When a homemaker buys a steak, she wants it thick enough to be pleasing and she isn't keen about cutting one steak for two servings. This demand for smaller cuts and higher quality beef has pressured the market into paying a premium for early-maturing, high-quality, well-finished cattle that weigh 800 to 1100 pounds.

The two great forces influencing changes in type are livestock shows and relative prices paid by markets. From the commercial standpoint, the market value has produced the principal effect. Therefore, the future trend in breeding can be determined by analyzing what brings price premiums on the markets.

In 1935, P. C. Burns, head cattle buyer of Armour and Company, outlined the history of price premiums paid for beef cattle. The first premium was for improved fattening qualities, especially the amount of fat the animal carried and the amount of marbling in the carcass. This brought greater flavor and tenderer meat. The second-price premiums were paid for reducing carcass waste. The packer could afford to pay more for animals lacking patches and rolls of fat, and so the demand for smoothness was reflected through prices and became a great factor in improving beef type and quality. The third-price premium was for animals that would grow and fatten at the same time, to reach market finish younger and lighter. This was called early maturity, and breeders selected bulls that would sire this trait in their offspring.

The market now is starting to pay premiums for heavy-muscled, cor-

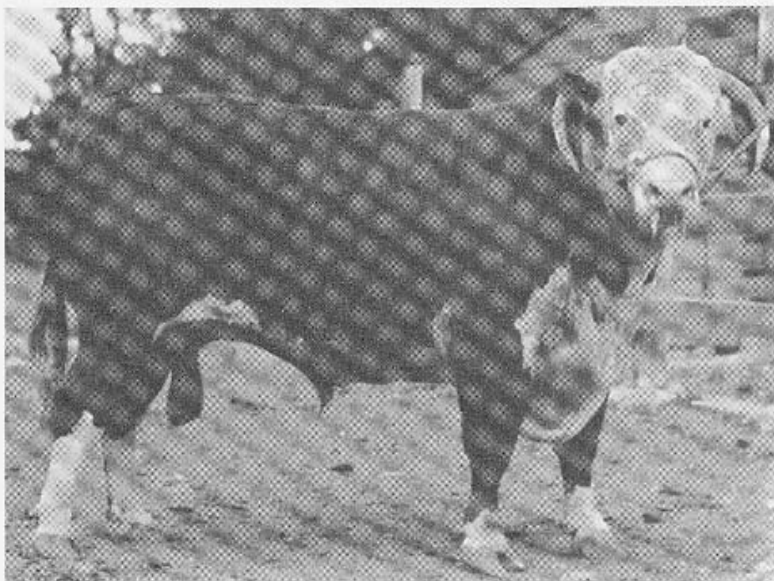


Fig. 4. Hereford bull, considered very good bull in his day, 1926.

(8)

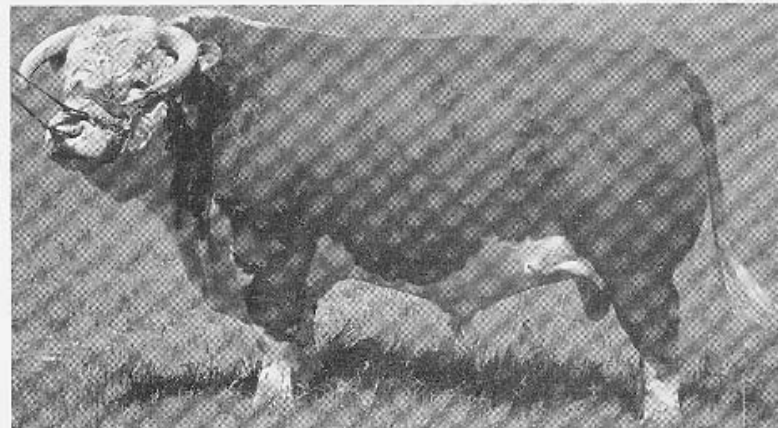


Fig. 5. Hereford bull, 1962; the modern type most breeders are selecting to attain.

rectly finished, handy-weight cattle. The machine and space age has brought about shorter working hours and less physical labor, and Americans are more weight conscious; so there is demand for less fat on meat servings. This demand must be supplied without sacrificing quality.

When the trend to smaller and more compact cattle became evident, some commercial and purebred breeders tried a short cut. They used extreme type compressed and compact bulls in breeding to make their cattle smaller and more compact. The stock shows also changed their standards and smaller cattle began to win. For a time some breeders went to the extreme and produced cattle that were too small and too compact for utility. Many winners at livestock shows from 1940 to the early 1950's were extremely small, very compact, squat-type cattle that were not useful. This we now know was wrong, and it has been corrected. Larger, sounder, more useful cattle are winning today.

Beef cattle numbers per capita have been declining through the years, yet we are eating more beef per capita than ever before and the quality of the beef is better. This, in itself, indicates how far we have come in selecting cattle for economical beef production. Chain stores and supermarkets retail about 80% of the beef that is consumed in this country. The bulk of their demand calls for cuts from choice-quality cattle that weigh from 800 to 1000 pounds.

During the past decade much standardization of type has taken place. We see more of the middle of the road type cattle and very few extremes such as the large, plain, rough cattle or the very small, dumpy, compressed type. Classes at the shows are evened and of much better quality now than 10 years ago. We have improved the bone structure of our cattle in recent years, but still have a long way to go in improving muscling and decreasing fat cover while maintaining marbling in the meat.

Future changes in type should be gradual, not revolutionary, as a gradual change is more likely to be sound and lasting. Single births plus a long-generation interval makes progress in cattle breeding slow. It is vitally important not to go on wild tangents in beef cattle selection.

#### Swine

When early American settlers moved west into the fertile soils of what is now called the Eastern Corn Belt, their agricultural production soon exceeded their needs, and surpluses of grain were available for

(9)

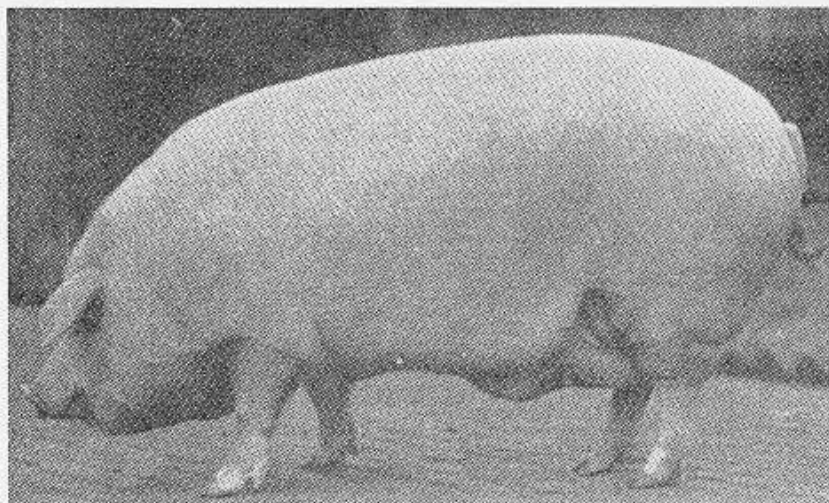


Fig. 6. Champion Chester White barrow, 1918; weight, 625 pounds; age, 18 months (No Carcass Information)

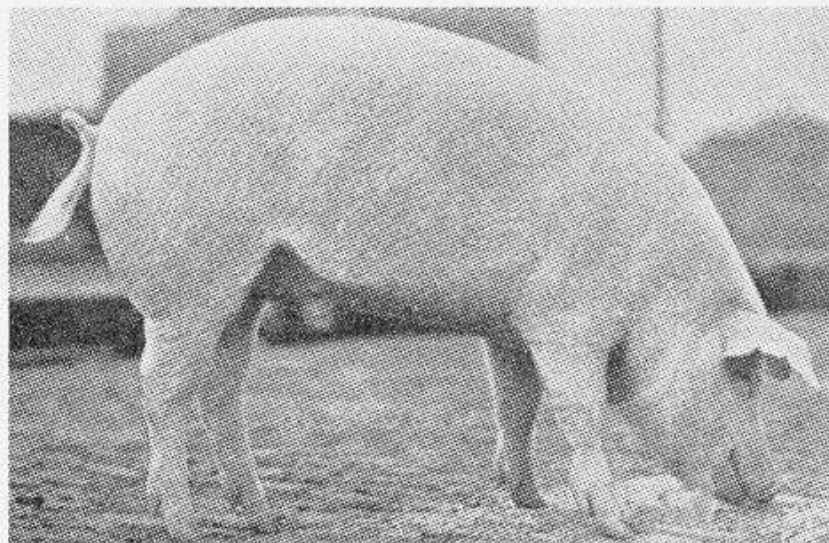


Fig. 7. 1934 Champion Chester White barrow, 1934; weight, 250 pounds; age, 7 months (No Carcass Information)

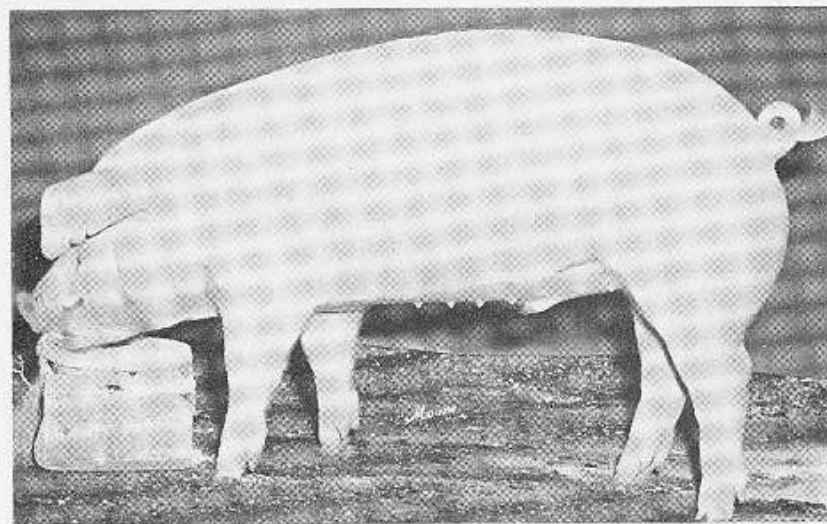


Fig. 8. Champion Chester White barrow, 1960; weight, 208 pounds; age, 160 days; length of carcass, 29.8 inches; backfat thickness, 1.13 inches; loin eye area, 6.07 square inches.

livestock consumption. Swine breeds were developed to consume the surplus corn and convert it into meat for human consumption.

The two main types of swine were "lard" and "bacon." The two bacon breeds were Yorkshire and Tamworth, both developed in England. The Berkshire is the only lard breed developed in England. The other lard breeds were developed in the United States. In early 1900, lard was at a premium and we bred hogs to yield large quantities of lard. Barrows were marketed at 500 and 600 pounds. In 1923, the United States produced 2,871 million pounds of lard and exported to Central European countries 1,060 million pounds. For many years lard was a very important export. In 1923, the per capita consumption of lard was 11.3 pounds. The price of lard through the years has strongly influenced type and weight of hogs produced.

With the advent of vegetable oil production, demand for lard decreased. With swine as cattle, machines replaced human labor and resulted in less consumption of fat and less demand for fat hogs. The quickest way to get rid of fat is to market hogs at lighter weights. This was done and, in addition, hogs were selected to yield a higher proportion of lean to fat. With emphasis on muscling and meatiness, the term lard type began to disappear. Beginning about 1948, all breeders were trying to produce meat-type hogs. Meat type is now the production goal of all swine breeders in the United States.

Multiple births and short gestation periods make it easy to change type in hogs through selection. From 1900 to 1915 the type was very short, "chuffy" and lardy. The hogs were very short legged and dumpy. Type began to change and breeders tried to produce big, long-legged hogs that would obtain tremendous size. This period lasted from 1915 to 1925. Some sows then weighed more than 1000 pounds and boars reached 1500 to 1800 pounds. Such hogs were long, tall, very heavy boned, and coarse. Names like Giant, Big Sammie, Giant Buster, Big Annie, Big Jack, and Big Bone Maid were given registered swine during that period.

The next shift in type was to a long, lean, meatless hog with very

little muscle, and no constitution or vigor. This change was short lived, and breeders started to produce more of a meat-type hog with less fat and more muscle. Carcass studies of progeny have helped breeders greatly in selecting lines of breeding stock that produce heavy-muscled hogs with less backfat. Barrow shows and carcass contests have played, and are now playing, an important role in selecting the modern meat-type hog.

#### Sheep

There are basically two general types in sheep, wool and mutton. The wool type are bred to produce heavy-shearing, high-grading fleeces; the mutton type, to produce excellent lamb and mutton carcasses.

During the past 50 years mutton type has not changed greatly. We have gradually changed from marketing older, heavier weight lambs to lighter weight, younger lambs with less fat and more muscle. From 1900 to about 1950 the fattest lamb usually was placed at the top of the class. Many judges used amount of finish as the main guide in placing market lambs, and some coaches of college livestock judging teams instructed the students always to place the fattest lambs at the top of the class.

Since finish is no longer an important factor in grading lamb carcasses, judges have been selecting heavy-muscled lambs with enough finish to obtain marbling.

The International Livestock Exposition showed one and under two-year wethers and lambs until 1940, then the one and under two class was dropped and only wether lambs were shown. In 1953, wether lambs

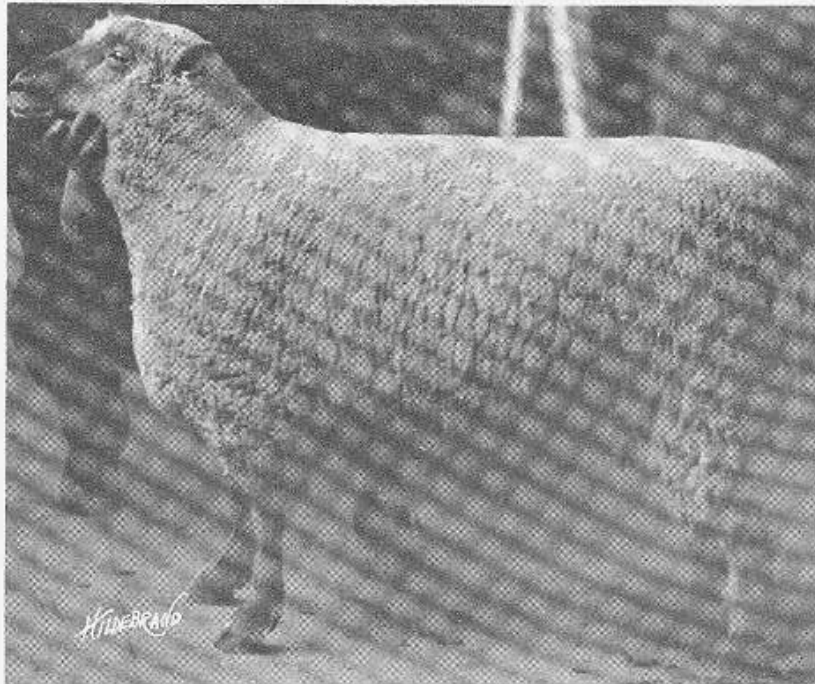


Fig. 9. Champion Crossbred wether, 1917 International.

were divided into two weights, under 95 pounds and 95 to 115 pounds. Now they are considering accepting a heavier weight market lamb which producers feel would be an advantage in commercial sheep production. The market has been very strong in imposing price cuts on lambs that weigh over 110 to 115 pounds. If the markets continue this practice, breeders that produce fast-growing lambs with excellent carcasses will be at a disadvantage.

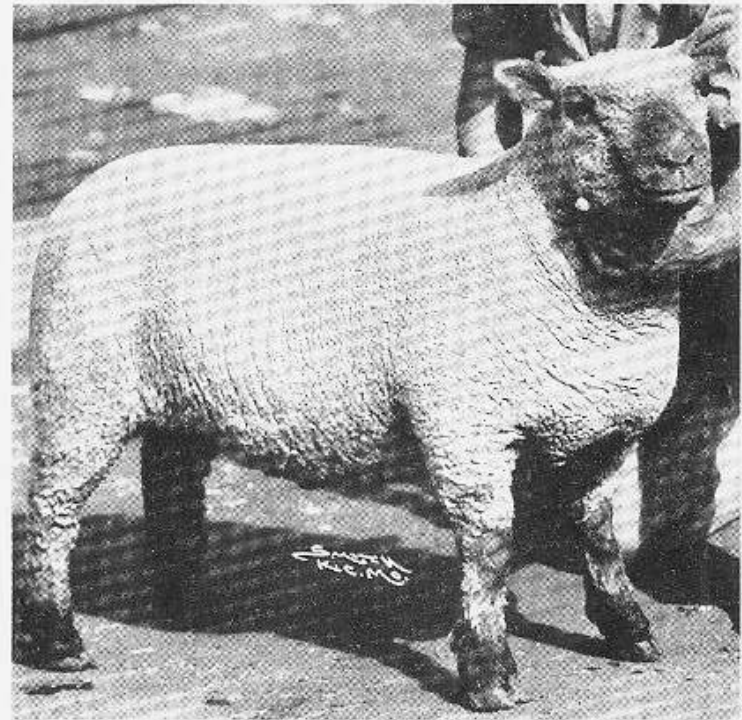


Fig. 10. Champion Southdown wether at a recent American Royal livestock show.