

Beef Logic

by R.A. "Bob" Long



Basic genetics for cattlemen — Part IV

Geography and the resulting climate have a profound influence on animal performance. In general, as cattle are moved northward, westward or upward in elevation on the North American continent, the response is favorable. In like manner, movement southward, eastward or to lower elevations decreases performance.

Obviously, the top performers in a herd managed in a certain geographic area are best-equipped genetically for production in that area. Therefore, the best possible source of replacement breeding stock is from within the breeder's own herd. This applies to herd sires as well as replacement females. The breeding program that does not use bulls from within the herd is suspect at best. Of course, outside bulls may need to be used for improvement of a certain trait or traits, but whenever possible such genetic material should have been developed in a similar climate.

Cattle performance is the result of the total effect of genetics and environment. From that fact we deduce the rule of cattle breeding that states, "Selection of breeding stock must take place under the same conditions as those to which the progeny will be exposed." The breeder who expects to market bulls to commercial breeders should maintain the entire herd under conditions similar to those employed by cow-calf producers in the marketing area.

This applies particularly to plane of nutrition. Furthermore, this applies not only to the breeding herd, but also to postweaning gain-test diets. Almost every commercial steer or heifer not kept for replacement spends a period of time in a feedyard before going to slaughter. The nutritional regimen practiced in almost all feedyards uses a high-concentrate diet. Concentrate-to-roughage ratios of 8- or 9-to-1 are used almost universally. High-

concentrate diets contain more available energy than roughage. This high caloric density results in improved conversion and lower cost of gain.

Unfortunately, some strains of cattle do not have the ability to handle high-grain diets, which results in an increased incidence of such problems as bloat, founder, and difficulties with feet and legs. These problems lead to poor performance, both on the gain test and later in the breeding pasture.

Further, some bulls get too fat on high-concentrate diets, indicating undesirable yield grades in the carcasses of their offspring.

When these problems occur, the breeder is tempted to correct the situation by changing the diet in order to present his bulls in better condition. This is a mistake, and the bulls that can't handle high-energy diets should be culled along with the bloodline.

The old cliché "Good sailors hail from stormy seas" fits this situation. The breeder's goal should be to improve the genetic ability of cattle, not to handle them so as to cover faults.

Some breeders argue that cattle are ruminants and utilize roughage more efficiently than other meat animals and should be tested on roughage. Cattle are ruminants. All cattle do well on roughage, while only certain strains can handle the feedyard rations.

This difference is due to genetics, and such cattle should be identified and multiplied if breeders are going to provide commercial cow-calf producers with the genetic material they need.

Mention has been made of the fact that some bulls get too fat if gain-tested on high-concentrate diets. This predisposition to excess fat is controlled by genetics. If bulls

are tested on low-energy, high-roughage rations, those individuals genetically predisposed to excessive fat deposition will not be identified. When bulls, steers and heifers of similar genetic makeup are fed the same, the bulls will be leanest; the steers, intermediate in fatness; and the heifers, fattest. Therefore, if a bull is gain-tested under feedlot conditions and is carrying too much finish at the end of the test, he has failed, because his steer and heifer progeny will carry even more finish when fed for slaughter.

The performance recorded on gain tests is also affected by management. For example, if bulls are fed individually with no competition for feed or bunk space, a shy bull might record a much higher rate of gain than he would if tested under feedlot conditions. The same could be true if bulls were tested in large pens or on pasture rather than forced to compete in a feedyard situation. Good bulls are aggressive for feed, water and space.

Remember, breeding stock should be selected under the same conditions as their offspring will encounter. Therefore, bull calves should be uniform in age, go on feed at approximately 8 or 9 months of age, and be fed a high-concentrate diet in a feedlot situation. After 140-150 days, the bulls should be evaluated for rate of gain and composition. If a bull has not gained well, has developed any unsoundness, is inadequate in muscling or is too fat, he should be culled — not sold as a performance-tested bull.

"Basic Genetics for Cattlemen — Part V" will deal with the importance of maintaining proper contemporary groups.

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