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An Overview of the Exotic Breeds of Cattle

by
Lowell Anderson*

The introduction of exotic breeds of cattle into the United States has begun to accelerate within the last ten years. It is almost impossible to keep up with the breed names. Although most of these breeds have existed for many years in Europe, they are now being found to have potential in crossbreeding with the beef breeds that are more familiar within the United States.

It is an interesting endeavor to find information about these breeds. Most of the work and test data is recorded in a language other than English. Information about them in the United States is not in sufficient quantity to fairly evaluate their potential.

An attempt to define the exotic, describe a few of the exotic breeds, and make a general evaluation of their purpose is the goal of this overview.

It is important to keep current in what is happening with the beef industry. It appears that exotic cattle despite the difficulty of importation into the United States are gaining significance. The state veterinarian's office in Iowa has said that, due to the lack of a port of entry into the United States for cattle exported from foreign countries, live animals must first be shipped to Canada. They must pass rigid import regulations and also pass export regulations before their availability into the United States can be accomplished. Therefore, the method of transportation of exotics is done primarily by semen and ovum transplants into foster cows. Straightbred livestock of exotic breeding is still rare to find, but the future looks

promising for more importation from Canada.¹²

There are over 400 different breeds of cattle occurring throughout the world. Some of these breeds are dispersed worldwide, while others are localized within specific regions. A goal for a high level of perfection in production is the principle reason for the wide distribution of these various breeds.

Due to breed movement, adaptation, and improvement, a variety of types or breed lines originate within a breed. If enough variety occurs, eventually a new breed may bud off. One would find it difficult and unrewarding to initiate a new breed by simply selecting for a certain type of animal within the base breed. Upon selecting for a specific type one would need to cross closely related animals. An inbred line would result and a lack of heterosis would most likely decline the overall efficiency of the "new breed." As history indicates newly organized breeds with only a few differing types and no outstanding traits do not exist very long.⁹

A breed has its own structure which consists of a number of specific traits inherited from different herds of origin. Improvement can be accomplished through crossing breed types within the breed, but not sacrificing the traits that set it off as differing from other breeds of cattle. If one were to search for a good exotic breed, he would find that it has been well established and its ancestors date back hundreds of years.

Ways To Improve A Beef Breed

There are many ways of improving the

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profits in raising beef and the quality of beef raised. Areas that should be considered when attempting improvement and that are mentioned frequently are: management, environment, disease and parasite control, nutrition, and the type of beef animal.

Due to an increasing amount of research on feeding and housing of beef animals, and better trained and skillful managers it seems that animal improvement is becoming the next area of major interest.

In years past, county fairs and show exhibitions have judged cattle on conformation and style. Presently one sees an increasing popularity for carcass and feedlot performance competition. People have begun to figure feedlot profits down to the penny. It is this trend from blue ribbon to blue chip that initiated the push for increased animal efficiency and economic gain.

How can one improve his cattle especially when money is a concern? Obviously, if one were to develop a so called "Perfect Breed," the animal would have to rank above all others in various categories. One should consider: cutability, grading, resistance to climatic changes, fast gaining, early maturity, feed efficiency, ability to utilize poor quality feedstuffs, resistance to insects and other parasites, ability to reproduce an equally potential animal and to be satisfying to look at. If and when all these could be achieved one would still be trying to strive beyond these records. It is of course the goal of a producer to come as close to these as possible.

Selection of certain traits to improve a herd has been done by introducing a new bull type or breed. One cannot expect improvement overnight and can only select for one or two traits to assure their retention with the herd. It has been discovered that crossbred cattle are most efficient in this aspect. For example, crossing of two straight breeds, Hereford and Angus, gives a "black baldie" which has combined the growthiness of the Hereford with the carcass quality of the Angus. This has been a very successful and popular cross. Re-

member only two traits were mainly considered in this cross.⁸

Other methods of breeding plans have been successful in incorporating and selecting for multiple traits. For example, three breed cross has increased the number of calves weaned, and achieved higher weaning weights. Straight breeding, however, will tend to increase milking ability as in the Holstein. Little or no predictable heterosis occurs when considering carcass merit or feed efficiency.

Types of Breeding Programs^{4&8}

1. Two breed cross system—Is the breeding of a male straightbred with a female straightbred of two separate breeds. Heterosis occurs only in the calf. It is the most common type of cross and is used in the production of quality marketing animals. It may also be used to produce maternal stock for another breeding program.
2. Three breed terminal—Heterosis is maximum in both the brood cow and in the calf. More breeds are used in the cross; consequently, more breed types can be introduced. An example of this program is Angus X Simmental to produce the dam and sire, to this cross a Charolais bull. The crossed brood cow should be bred to obtain good milking ability, ease of calving, good conception, utilize a poor class of feed, easy to manage under environmental stress, economically feasible to maintain, and may be able to improve carcass quality from one of the breeds used in the maternal cross. The paternal straightbred may be large and sire calves with growthiness and feed efficiency.
3. Backcross—Attains 100% heterosis in the brood cow but only 50% in the calf. This cross is produced by mating an F_1 back to one of its parental breeds. This cross is used in improving brood cow productivity.
4. Two breed crisscross—Bulls of 2 breeds are used alternately. The bulls of each breed being bred to daughters

of the other breed. One obtains a 67% heterosis in the cow and 67% in the calf as well.

5. Three breed rotation—Three breeds are used in sequence. One attains a high level of heterosis in the total population. Try to select daughters and granddaughters of the other two breeds to mate with a different breed sire. One can eventually attain 85% heterosis in both the cow and the calf. This type of system would primarily be restricted to large cow/calf operations.
6. Mass mating of bulls—Is the random mating of several breeds of bulls to the cow herd. The only advantage is that a minimal amount of management is needed.

The goal of crossbreeding is to attain a high percentage of heterosis. In other words have the potential of the calf be higher than the average potential between its two parents. The three breed rotation is desirable and practical for the large calf producer, while the three breed terminal is practical for any size operation. Choosing what the breeds should be in a breeding program is entirely up to the individual manager. He must decide what goals and what improvements must be strived for and obtain bull and livestock that will best suit his need.

Rules for planning a crossbreeding program:

1. Plan to use breeds that give uniformity. One may even strive for a uniform color among the herd.
2. Use one breed to keep a constant maternal quality and one breed to retain market gradability.
3. One may be able to sell female calves to other breeders wanting good maternal stock.
4. Do not go with too big or growthy of a bull. Stay within the 1,050–1,250 range at 365 day age. Remember at the normal market weights heavier breeds will not be as mature and grade as high as compared to a lighter breed. A large breed sire may even create some problems with the ease of calving in the brood cow.

5. When using the three breed terminal program always buy crossbred replacement females. This will maximize the percent of heterosis.

Why Exotics Are Used

Popularity and discovery are two of the reasons for the latest surge to import and crossbreed exotic cattle. Some breeds are considered reliable just because they have been discovered in Europe. The fact remains that much of the information on these breeds is hard to come by. The records that are received, one must remember, have been gathered from trials done under different conditions and controls than we have in the United States. One must wait to evaluate the performance of exotics until they have been tested and crossed with more recognized U.S. breeds. When crossing exotics with U.S. breeds one can combine the roughened tri-purpose breed with a breed that will smooth its conformation without losing growthiness, meatiness, and milking ability.

Following is a list of some exotic breeds, a short description, and a suggestion of where the breed may best be suited in a breeding program. A list of important traits to consider were compared among dairy and beef breeds of the U.S. and the exotic breeds. If a particular trait is mentioned in the breed description then it has significance as compared with the other breeds that have been compared. Among the traits compared were: efficiency under minimal management, disposition, heat tolerance, cold tolerance, fertility, calving ease, size of calf, milking ability, mothering ability, feed efficiency, pre- and post-weaning weights, growth, mature size, longevity, optimum slaughter weight, fat thickness, muscling, bone, age at puberty, and if the breed is best suited in terminal, rotational, or as a maternal component in a breeding program.

Breed Descriptions^{2,5,6,7,9,10,13}

1. Blonde D'Aquitaine—Like the Charolais, golden brown to wheat colored,

- originated in southwestern France. 1,504lbs. at 365 days with daily gain at 3.5 lbs. Noted for growth ability, carcass quality, excellent mothering, little calving difficulty and good conception. May have large calves when crossed. 1,150 is optimum slaughter weight, lean carcass with a lot of muscling, and medium boned. Suggested as a bull for terminal or rotational programs.
2. Chianina—White to creme with black switch and dark skin pigment. Originated in Italy and many consider to be the largest beef breed in the world (may reach 4,000 lbs. mature weight). They are docile, adapt well to pasture grazing, rapid growth, well marbled, good heat tolerance, not good milking ability, good feed efficiency, excellent post weaning growth rate. Optimum slaughter weight is 1,350 lbs., lean carcass, late to reach puberty, fine boned considering the size, although almost always used for draft in Italy. Chianina works the best as a terminal sire.
 3. Devon—Solid mahogany red, developed in southwestern England. Draft animal. The calves seem to be light at birth (55 to 60 lbs.), adapt well to temperature extremes. The optimum slaughter weight is 1,100 lbs. May be used as a maternal component or a rotational sire in a breeding program.
 4. South Devon—Originated as a draft animal in England. Rangy conformation, but well muscled, above average longevity, maybe a useful dual purpose breed, prone to have large calves at birth. Optimum slaughter weight is 1,150 lbs. Maternal or rotational programs are suggested.
 5. Limousin—Reddish gold with light tan under belly, on the muzzle and legs. Originated in France about 7,000 years ago. Good gainers, excellent marbling, smaller boned than Charolais, poor milking ability, long gestation, excellent post weaning growth, excellent cutability, good muscling, 1,000–1,100 lbs. at 365 days. Optimal slaughter weight is 1,100–1,200 lbs. Terminal or rotational sires.
 6. Maine Anjou—Dark red with white undermarkings and several white markings along the body. Originated in France when red and white draft animals were crossed with Shorthorns. Used for draft, but had good beef characteristics and also milking potential, long gestation, good pre- and post weaning growth, good disposition, large calf, good milking ability, good feed efficiency, lean but well muscled, heavy boned. Optimum slaughter weight is 1,250 lbs. May be used as maternal rotational or terminal components in a breeding plan.
 7. Marchigiana—Light gray color and from Italy. Quiet disposition, high growth rate, does well under adverse conditions.
 8. Murray Grey—Grey, polled, and light. The breed was founded in Australia. Excellent carcass quality and feed conversion, fast growth, small calf size, docile, good fertility, ease of calving, good mothering ability, early puberty. Optimal slaughter weight is 1,040 lbs. Maternal or rotational breeding program.
 9. Simmental—Creme and white to dark red and white. Came from Switzerland. Rapid growers, thick muscling, well marbled, can adapt to many climates, good disposition, large calf at birth, good milkers, good feed efficiency, fast post weaning growth. 1,215 lbs. is the optimal slaughtering weight. Can be used in a maternal, rotational or terminal type of program.
 10. Welsh Black—Black breed from Wales. Tolerates changes in climatic conditions, ample milk cow, longevity, slow maturing and growing, efficient under minimal management, tolerant to the cold, good mothering ability, small mature size and poor muscling. 933 lbs. is the optimum slaughter weight. Used as maternal

- component of a breeding program.
11. Flekvieh—White face and irregular white markings and a color from creme to dark red. Upgraded by Simmentals and originated in Austria. Used as a dual purpose breed, with good disposition, mothering ability, fertility, feed efficiency, post weaning growth, muscling and heavy boned. It is a large breed with large calves and an optimum slaughter weight of 1,213 lbs. May be used as maternal, rotational, and terminal animals in reproduction.
 12. Gelbvieh—Light tan to yellow to light red in color. Originated in Germany. Selected for its milking potential. It averages 4.5% butterfat in the milk. They have large calves, are efficient, good post weaning growth. Optimal market weight is 1,175 lbs. Can be used in all three programs.
 13. Tarentaise—Solid Reddish tan and a French breed. It is a mountain type and has a good history of milking potential.
 14. Pie Rouge—Is like the Simmental of Switzerland, only comes from France. Has slightly more of a dairy conformation. It has good disposition, feed efficiency, fast post weaning weight, good muscling. 1,213 lbs. is the optimal marketing weight. Useful for maternal, terminal and rotational breeding.
 15. Lincoln Red—Solid red color. Originated from England. Excellent carcass length, also good dual purpose breed, but has been selected for its beef qualities. Useful for maternal and rotational breeding programs.
 16. Normande—Red to brown and is the most numerous breed in France. It is a small structured cow with Short-horn influence. Used as a maternal component in crossing programs.
 17. MRY (Meuse Rhine Yssel)—Red and white spotted from the Netherlands. It produces more beef and less milk than the Friesian.
 18. Romagnola—White or pale grey with dark colored points. Little informa-

tion found on this breed.

19. Pinzgauer—No information.

This list of exotic cattle is by no means complete. It is however, a list of which semen can be purchased from A-I studs. Many other breeds of cattle can also be used in the breeding programs that were previously described. Charolais can also be considered an exotic, but due to their abundance and straightbred herds here in the United States I find it hard to classify them as an exotic.

Conclusion

A trend of feedlot beef is occurring and with it a trend of crossing with exotic cattle. It seems there is indeed potential in these breeds. The basis behind them indicate they are stable. They definitely may help to improve the standard beef breeds, but yet one must remember that exotics as a general rule were produced for tri-purpose breeds and not specifically bred to excel in one area.

An attempt to describe the usefulness of incorporating the exotics, some of the factors they have to offer, and suggested breeding plans were discussed.

One can only wait for trials and results before being able to justify the effectiveness of these breeds, improving what has in the past been a very successful and progressive beef industry.

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