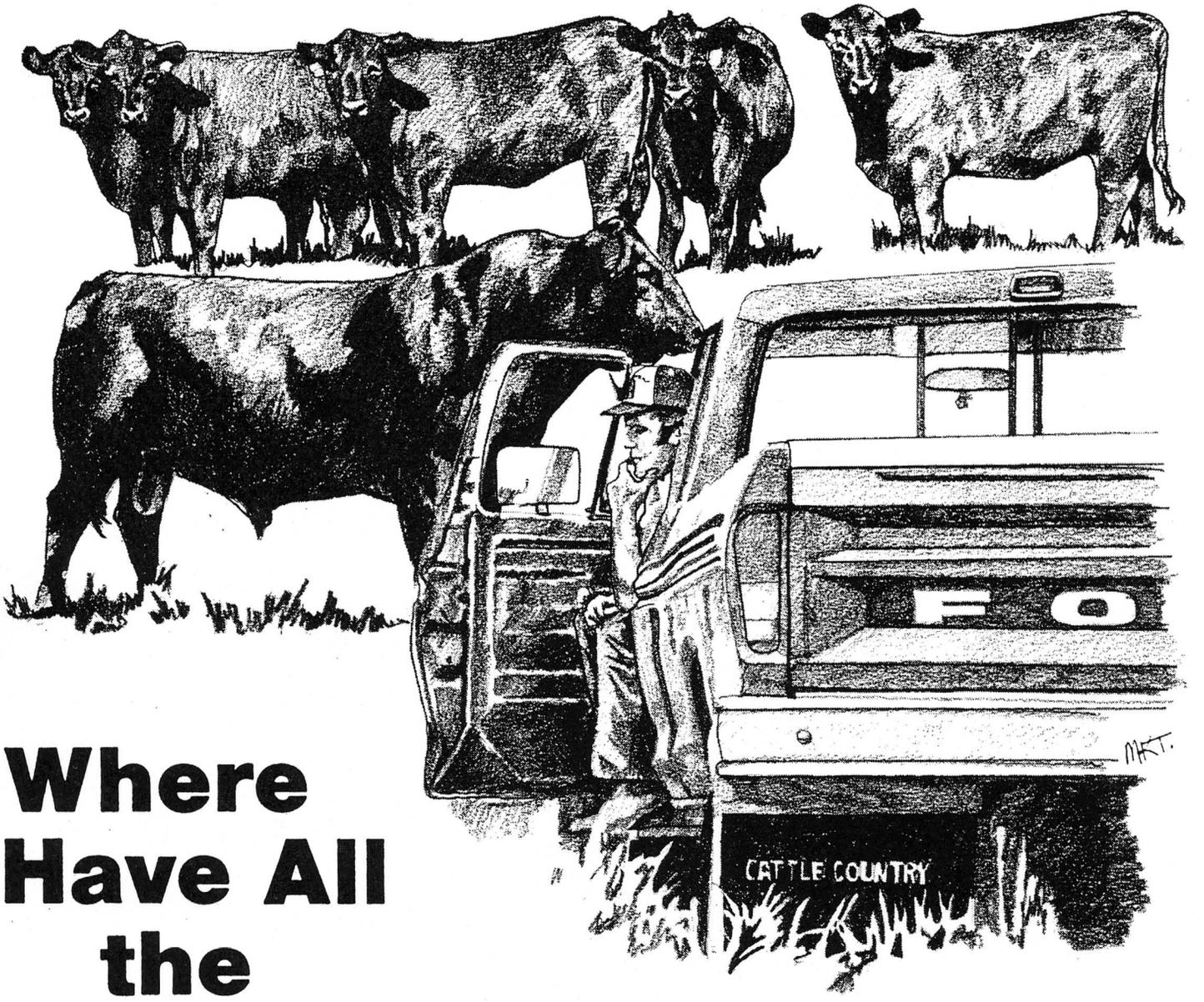

Where Have All the Dinosaurs Gone?

by Jay Leachman
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Animal breeding is as old as civilization. In ancient Egypt, Pharaohs bred horses to pull chariots for their "games." Knights in shining armor bred big, powerful horses as a means of protecting their king and their honor. Virtually all animals proven capable of domestication have been domesticated and used by man. In more recent times, animal breeders have contributed to the improvement of animals for man's purpose—most importantly through the use of the domesticated cattle, sheep, pigs, goats and fowl as the major animal food for man.

Cattle, especially in the United States and in most developed countries of the world, are used as sources of food since mechanized equipment has replaced them as beasts of burden. Cattle are ruminants—multi-stomached animals with the ability to utilize high amounts of lower quality roughages and survive. Although improved plant breeding has changed the quality of such forages in many areas of the United States and

other countries, they are still roughage, high in fiber, that basically only ruminants can utilize.

By now you are probably asking yourself, "Where is this article going?" As a young animal breeder and lifelong observer of Angus cattle, I have some very major concerns about the direction the Angus breed and most other beef breeds in this country are headed.

The breeding of beef cattle for improvement of beef production is very time consuming because of slow rates of reproduction, long generation intervals, and the complexity of genetic mechanisms we have to work with. Low heritabilities of most traits of practical value present further difficulties. And to further add to our difficulties, the types of matings and selection processes we can make are very limited.

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Certainly, the forward progress of AHIR and other herd improvement records are a step in the right direction for helping us in our ancestorial recording ability for increased production. Add to this the fine pedigree analysis for defining apparent gene makeup in a family tree (i.e., expected progeny differences and estimated breeding values), and some of our selected matings decisions can be made easier.

Define direction

Yet even with this vast amount of information available, progress is still slow and tedious. One must look at direction and closely define goals as to progress. Is larger—or bigger—always better? Or more importantly, is it progress?

Let us reflect just a minute and ask ourselves about evolution. Where have all the big ones gone? The largest fowl are extinct, dinosaurs no longer exist, the elephant is losing ground, and perhaps even cattle are losing numbers.

Look at the turkey industry. Breeders survive almost solely because of A.I. They have bred birds with such large breasts that they virtually are incapable of natural mating. The pork industry had to make a large overhaul from a high lard content hog to a leaner, high bacon, meat-type hog because of a decreasing demand for lard and an increasing availability of vegetable oils. In making this change, the hog industry went to the extremes in type to find the optimum lean-to-fat ratio hog.

Now back to the beef industry. Let's be careful where we are headed. The larger cattle we are producing have some advantages, but let's look at how far we can go. Certainly our AHIR records indicate we are moving rapidly in yearling weight growth, yet right along with it our birth weights are increasing. And with alarm, so is our calving difficulty.

Calving ease is number one among the Angus traits and must always remain so. Dystocia—calving problems—is on the rise in the commercial cow industry. If you don't believe it, just listen to the man down the road at calving time. As we continually select for larger yearling weights, we must be careful of our birth weights. (Figures 1 and 3 of Sire Evaluation '84, pages 100-101, illustrate industry trends.)

In my opinion, larger-framed cattle have helped stave off some seriousness of calving problems because of the shape change resulting from increased frame. However, some of the apparent frame change was not increased skeletal size, but a change in shape and structural soundness. This is most certainly coming into the breeding picture, and I am appalled at cattle displayed at various events that are grossly unsound in their structural makeup.

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Careful balance needed

I also observe potential for other problems to surface as we breed larger and larger beef cattle. Maternal ability seems to be antagonistic with higher growth trait animals. In particular, females sired by extremely high growth trait bulls must have greater selection pressure placed on them for maternal ability. Maternal ability, as I think of it, includes not only the ability to milk, but also the cow's treatment of her offspring from the time she lays down to calve, caring for the newborn, healing back for rebreeding and supplying new growth to her offspring that is in balance with her natural surroundings.

Certainly from the male standpoint, strong libido and sound structure to carry the bull over rough terrain and varying climatic conditions to service cows is essential. In addition, large testicle size and large volumes of high quality semen are a vital necessity in this chore as well. This "master of the pasture" must have the ability to maintain himself under many adverse conditions, for he is truly the lifeline of the cattle breeding business.

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Change demands efficiency

Our economic standards and our society are changing so rapidly, one finds it hard to keep up. The demands being placed on our land and its usage is profound. The costs of production—fuels, fertilizer, insecticides, pesticides, machinery and labor—are skyrocketing. Cattle are sure to be relegated to waste lands and the type of cattle that will survive will most certainly vary from area to area. We are going to have to produce cattle that are efficient in every aspect of production, from conception to consumer—cattle that will require as little input of raw materials, time and energy as possible, yet still maintain as much quality for human consumption as possible. We will have to have cattle of tremendous self-sustaining ability on roughage. The energy costs alone for producing grains will not allow high use of grains in cattle feeding schemes. Cattle will have to be "garbage converters" to survive.

There always has been and always will remain a fine balance in animal breeding to maintain the proper balance for productivity. Let us not get carried to the extreme to supply the mean. AJ