

AI More Effective Than Embryo Transfer

During the early days of performance test stations it was common to hear an uninformed rancher proudly state that he used only performance tested bulls. The implication was being tested made a bull superior to an untested one. This idea prompted the use of bulls with inferior performance—bulls that should have been castrated.



Bob Long

Similarly, some present day breeders tend to attach extra value to cattle resulting from embryo transfer.

The following scientific developments have made embryo transfer feasible as a tool to increase the rate of female reproduction.

1. Hormone injection techniques which cause multiple ovulation.
2. Non-surgical collection of the ova produced after fertilization.
3. Non-surgical transfer of these ova to recipient cows.

The calves resulting from the use of the above procedures are in no way genetically superior to those the same mating would have produced naturally. There are simply more calves.

The increased rate of reproduction possible in cows by embryo transfer makes this

technique useful if the goal is to simply increase numbers of a breed or strain. The procedure might also help save an endangered species, however, no genetic improvement necessarily takes place.

In order to have genetic or breed improvement when using embryo transfer superior females must first be identified. This requires detailed performance records of fertility, calving ease and milking ability. A cow would need to reach middle age at best before her superiority could be established.

A frequent practice in purebred breeding programs using embryo transfer has been to place a heifer in such a program as soon as she reaches puberty. Obviously, there is not sufficient performance data available to identify such heifers as superior. This practice is inappropriate and has little chance of contributing to overall beef production superiority.

A further disadvantage of using embryo transfer is the fact that no legitimate performance data can be collected on a female while she is in embryo collection. Also, performance information such as birth weight, type of birth, weaning weight and even yearling weight of calves from transferred embryos carried and nursed by foster mothers are of little value in genetic evaluation.

Herd and/or breed improvement can be realized much faster and more efficiently by artificial insemination (AI) with superior bulls than by embryo transfer. For example, assume that the best cow and the best bull in a particular breed have been identified. At best, the

cow might produce 100 calves in an embryo transfer program. However, a fertile healthy bull can easily produce 400 to 500 straws of semen per week for a few years.

Using this quantity of superior semen by AI with a 50 percent conception at first service can make a much, much greater contribution to the genetic improvement of the beef cattle population than can any embryo transfer

program, and at less expense. Even the natural service use of a good bull is more productive than that of a female.

These facts emphasize the importance of sire selection in both purebred and commercial herds. Since the bulls used in a herd largely determine the genetic makeup of that herd and therefore the herd's profit potential the owner/breeder is justified in assigning "herd bull selection" a high priority.

What's Your Beef?

Breeder Values Phenotypic Traits

I disagree with Dr. Long's articles in the 1995 March and April issues of the *Angus Journal* in which he takes the position that phenotypic evaluation of traits such as length of body, thickness, volume, capacity, and fleshing ability are meaningless and have nothing to do with beef production efficiency.

Most of the successful and experienced cattlemen I know place great value in these traits because of observed advantages in production efficiency and profit. In fact, the winning get-of-sire groups at both the Treasure Test in Montana and the Culpeper Junior Test in Virginia this year came from my small herd and were sired by long-bodied, thick, big volume, easy-fleshing bulls.

Dr. Long states that, "to measure genetic differences cattle must be compared at the same time, at the same place, at the same age, of the same sex, and under the same management and nutrition." Therefore, I suggest that the American Angus Association conduct an experiment to determine the true value of these traits as follows. A large, Angus-based commercial herd will be used. The herd owner and a representative from the American Angus Association selects two groups from the replacement heifers:

1. Group A consisting of long-bodied, big volume, thick, high-capacity, easy-fleshing heifers, and
- 2 Group B consisting of short-bodied, shallow, tight-ribbed, hard-fleshing heifers.

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Whats Your Beef?

I will select females from Group A and Dr. Long will select females from Group B for the study. We will then conduct a long-range project where a high percentage of replacement heifers are retained (and will go into the study), and all male progeny and cull heifers are fed and slaughtered.

Dr. Long will select the service sires for Group B from the entire Angus population, with the only restriction that they be shallow-bodied, hard-fleshing, short-bodied bulls. (According to Dr. Long, performance records, not phenotype, are what count.)

I will provide service sires for Group A — the long-bodied, big volume, thick, easy-fleshing cattle and will be restricted to the bulls that I own. Complete cow herd, feedlot, and carcass data will be maintained.

After a number of years the data will be analyzed and the profitability of each group will be determined. At that time, we could start to quantify the value of these phenotypic traits.

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More on Industry Buzzwords

I just realized today there is a new buzzword popping up in magazines and in sale catalogs. It's GROWTH BULLS.

What an image these two words create! A person might think these particular bulls are almost a separate breed with enormous potential for growth much greater than the average bull. The discovery of these two words in the sale catalog aroused my interest.

I examined the expected progeny differences (EPDs) and the bodies of the bulls and found only one obvious difference. After looking at the EPDs of the group as a whole I found their birth weight EPDs were substantially higher than the other bulls listed. This, then, is what really puts them in a class of their own. Their other EPDs did not differ much from other bulls in the sale or other bulls I have studied with much lower birth weight EPDs.

I can only conclude the two words GROWTH BULLS is a label designed to make you think these particular bulls possess superior growth characteristics when, in reality, they only have higher birth weight EPDs. It would certainly be convenient if higher birth weight EPDs always indicated greater growth. Higher birth weight EPDs might indicate a bull

has a better chance of reaching a higher mature weight. Being a good wordsmith does not qualify a person as a genetic expert. One important requirement is that a spade be called a spade.

Don't try to pull a fast one on your cows. When your cow sees that GROWTH BULL coming for a visit she will not realize the thanks for her favors will be a painful birth about 283 days later.

It's depressing to see the language of politics creeping into the art and science of cattle breeding. I, for one, have had a belly full of deception and misrepresentation in our society, even on a small scale. I just want the facts, and I will be the judge of whether these bulls are GROWTH BULLS or not. Fortunately today, most of the facts are available.

I have another "beef" to talk about. The proliferation of AI sires with huge milk EPDs in semen catalogs. These milk EPDs almost gives them the genetic capability of becoming dairy studs. No doubt the person responsible for selecting these sires has a serious addiction to milk and milk products.

The good news is there is a cure for this wretched malady. The following regimen, if followed faithfully and long enough, will affect a permanent cure: Thrice weekly meals of liberal portions of Certified Angus Beef™ roast beef or steak accompanied by a variety of fresh raw vegetables.

After a few weeks on this diet the person selecting AI sires will be able to concentrate on characteristics more suitable to the beef industry

The Angus cow has had ample milk for her calves long before EPDs were born. Let's not fix something that is working well. It would be wonderful if our leaders in breeding better beef through the use of excellent bulls would stick to known selection principles and not use the "more is always better" philosophy to burden beef cows with the expensive habit of unneeded milk production.

Are we not supposed to be working toward efficient production?

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