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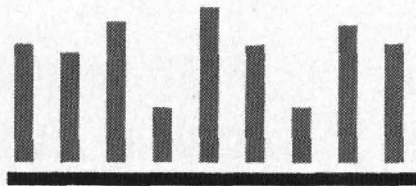
We queried several prominent managers, owners, or directors of central testing stations across the country on their views toward testing bulls in the future. Here's a sampling from our initial feedback. There were four questions common to each of our panelists, and two or three questions related to their particular area of experience.

# How Central Gain Tests Will Keep Abreast

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**RUSS PEPPER**      **Treasure Test Center**      **Simms, Montana**

The Treasure Test Center is a station gaining a reputation in the northern plains and Rocky Mountain states. Its concentration has been toward Angus, and we asked Russ to share his perspective on the breed's reception among commercial bull buyers there.

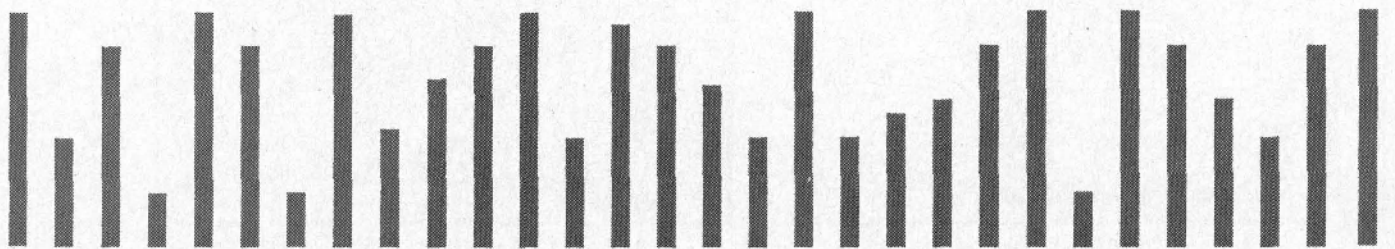


*How have commercial breeders and crossbreeders reacted to the changing dimensions of Angus bulls during the past few years? Any adverse comments about calving ease? Any favorable comments about frame?*

Since we have operated Treasure Test Center, our primary buyers have been commercial producers. The herd bull trade ranges from 10 percent to 30 percent with the remainder of the bulls going on commercial cows. The majority of these commercial cattlemen want bulls with larger frame yet carrying good muscling and thickness. They are reluctant to buy those bulls with large frame only as well as bulls with too much middle and waste to them.

*What rank do breeders/producers assign the information provided by your test? In other words, is growth and gainability still the most important overall measurement?*

Most buyers at our sales rank the various categories to suit their programs and needs. Some come to buy bulls strictly for use on heifers and they watch birth weights exclusively. Others buy bulls for use on cows and they usually pay more attention to 205-day weights and ratios, yearling weights and ratios, and average daily gains and ratios. This differs from producer to producer. Growth and gainability continue to be very important, but maternal traits come into the picture in our country.



What rank do buyers assign the different array of information provided by your test?

There seems to be no set pattern on ranking information from our buyers. It differs from buyer to buyer depending on his needs.

**LEO McDONNELL Jr. Midland Bull Test Columbus, Montana**

From his years and experience watching the testing concept grow from its infancy, Leo McDonnell has become recognized as one of the deans of performance work. Midland has been an influential source of superior seed stock over the years, and it has also served as a pattern for other stations throughout the nation.



How can central test help us select our daughters to replenish the "cow factory"? What traits should we seek and which should we avoid?

We compile, compare, and publish all records from birth to weaning. This includes birth weight, actual weaning weight, and nursing ratio (NR). "NR" is a reflection of the dam's milkability and the pre-weaning growth of the calf. It's been our experience that the bulls entered at Midland are out of some of the top-producing cows within each herd represented at Midland. If they were not, they would not have been able to express themselves as superior individuals within those herds.

To help our buyers in selecting bulls capable of transmitting desirable maternal traits, we list the individual's NR, dam and grandam's production records, any data on sires that would indicate maternal strength or weakness, individual and parent's EPD on those available, and scrotal circumference—as it's highly correlated to development of early puberty in offspring.

We measure average daily gain (ADG) and publish yearling weight (YW), weight per day of age (WDA), and the corresponding indexes. There is no other trait as highly correlated to so many other economically important traits as growth expressed through gainability—ADG and WDA.

*There is a high correlation (research has shown up to 90 percent) between ADG and a positive feed conversion; between ADG and percent of red meat; and between ADG and early puberty within a breed.*

This is not to say, though, that the high-gaining bull is our top individual. However, we do know we don't want the low-gaining bulls because we will be sacrificing efficiency both in the feedlot in his offspring and on the range through his daughters. One of the nicest compliments we get year in and year out is the high quality—both maternally and in durability—of the daughters out of Midland bulls.

Aren't linear measurements passe, or do we need to discover new uses for this measuring device?

About hip height—we feel that after you have compiled all the information available at a creditable test, the bull is either tall enough or he isn't. Height, as it has been selected for in the past, has a negative correlation to fertility, performance, gainability, structural soundness, and efficiency.

Length is probably a more accurate measurement of frame size since it's not affected by the structure of the legs—post legs versus an animal with some natural set/or straight pasterns versus an animal with some set and spring that will allow him to travel freer and absorb impact.

I'm sure both height and length measurements would be more effective as an aid in selection if they were presented in a combined form.

Probably scrotal circumference is the most important measurement that one can take on bulls, due to the high correlation SC has to the bulls own ability to settle cows and with the age of puberty in his offspring.

**R.E. "RONNIE" SILCOX University of Georgia Statesboro, Georgia**

Extension Animal Scientist "Ronnie" Silcox has been involved with forage testing of bulls, always an intriguing subject for cattlemen. He is devoting more attention to on-farm testing, and he makes some comment about that approach to the testing of seed stock.



*Does a forage test allow bulls to truly express superior gainability or feed efficiency? How can you measure feed efficiency, for example, on a forage test?*

A grain test should produce wider differences between bulls than a forage test. But, if bulls gain at least 2-2½ pounds per day, you should get a good ranking. I think bull gains on a very high quality forage or forage plus supplemental feed are reliable indicators. I do not think that a test that produces average gains of one pound per day will do a good job of sorting bulls.

There is no practical way to measure efficiency on a forage test. Rate of gain and efficiency are highly correlated, so selection for gain should also improve efficiency.

*Is a forage test "hot enough" to allow a bull to express masculinity, muscularity or conversely, any unsoundness that might be revealed in an intensive test where hot rations push the bulls to the limit?*

I feel more comfortable evaluating physical soundness on forage-tested bulls in the southeast than on grain-tested bulls simply because forage bulls are older at sale time. Most of the grain tests last 112 to 140 days and sell yearling bulls. Forage tests usually last 158 days or longer and bulls are 18 months to two years of age at sale time. As long as we continue to run relatively long forage tests, I do not see a real problem.

## Our general questions...



*Could the central test of tomorrow become the mathematical "proof" of sire summary data and EPD? In what other areas can these two performance concepts be brought to greater compatibility?*

### **RUSS PEPPER**

I don't feel the central test of tomorrow can become the proof of sire summary data and EPD totally. Females that are raising calves aren't normally run in a feedlot on a gain test! Sire summary data and EPD apply to central tests in some areas, but the total information they provide should come from cattle throughout all phases of their life.

### **LEO McDONNELL Jr.**

We also publish all EPD available on the individuals on test, along with their sire and dam EPD when available. EPD is probably one of the most exciting tools available today.

EPD is very compatible with test stations and performance herds as they are an extension of performance ratios and data accumulated within and between herds on a breed-wide basis. EPD should help reduce the number of highly-promoted genetic duds we've seen in the past years in the breed.

The main drawback I see with EPD is that the American Angus Assn. does not have mandatory performance—at least for weaning weight—as a pre-requisite for registration. Herein lies the greatest problem with EPD as it allows people to selectively enter information, and with the high dollar value placed on higher EPD cattle, you can bet people are going to abuse it. Greed is a strong motivator!

I am also concerned about the ability of EPD to adjust to the different degrees of heterosis in individuals.

You also need to remember that once you start standardizing selection tools on a national basis, competition to reach some preconceived "ideal" figure becomes so keen that margins begin to disappear for everyone within the industry. Yet, it is those margins that allow for changes which makes this business exciting and profitable.

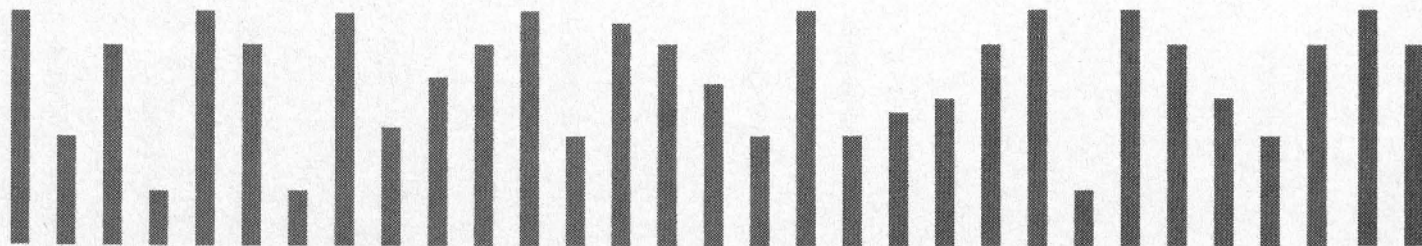
### **"RONNIE" SILCOX**

There is a basic problem with this as long as central tests and National Cattle Evaluations (NCE) operate as they do today. Expected Progeny Difference (EPD) is calculated using the differences between animals and their contemporary group averages. If a bull is removed from his weaning contemporary group and sent to a central test, the accuracy of his yearling EPD will be lower. An on-farm test which keeps the contemporary group intact should produce more accurate yearling EPD than typical test stations.

In my opinion, the best way to make NCE and test stations more compatible is to encourage consignors to send entire contemporary groups to central tests. As it is now, most of the yearling data from central tests are not included in NCE since most of the bulls have been separated from their weaning contemporary groups.

*Shouldn't feed efficiency (or ADG as an indication of feed efficiency) give producers some degree of confidence in selecting heifer replacements? Shouldn't the heifer mates or daughters of these high-gaining or efficient bulls be "easy keepers"?*

*Is this assumption valid, provable by heritability, or demonstrated by experience? Is there a danger high-gaining heifers may express undesirable masculine traits?*



## RUSS PEPPER

Angus today are definitely more efficient. Each year we observe that the bulls we are testing are gaining more on less feed. We take into account weather conditions which can change this considerably. The heifermates or daughters of high-gaining bulls will normally be easier keepers, however females on grass and hay are much different than bulls on feed where all the ration is put in front of them. Here in Montana, brood cows have to move around a great deal in many operations for feed that they must be able to utilize.

## LEO McDONNELL Jr.

At Midland, we have stayed away from the gain race and targeted our ration to the individual's response to a high roughage ration. Interestingly, we have been able to identify both yearling weight and weaning weight trait leaders in all the major breeds with a lot higher degree of accuracy than the high grain rations that have produced the state's and national record gainers.

We feel that by feeding a high roughage ration, we are targeting our program more to the cattlemen's needs. The primary reason we raise cattle is to convert roughage to pounds of beef and here lies the greatest opportunity for the cattle producer.

We are not interested in allowing a bull to fabricate and mask themselves with disproportionate gain. The reason we test bulls is to compare, and the way we compare is through indexes and ration. You'll be a lot more satisfied by buying bulls with the use of ratios from a creditable test or herd than these four- or five-pound gainers from a program that feels the only way they can promote or get recognition is to feed in this manner.

If you look back over the past 15 years, cattle producers have made tremendous progress in improving percent fat to lean in the Angus breed. You have to remember, though, what has made Angus popular—i.e. Angus cow efficiency, positive growth, moderate birth weight, and high quality beef. Carcass traits selected to the extreme are not compatible to positive reproduction traits. However, optimum growth traits do have a positive correlation to efficiency, carcass, weaning weight, and yearling weight, and therefore are five times more important than carcass traits.

## "RONNIE" SILCOX

I would expect the heifermates of fast gaining, efficient bulls to gain rapidly and efficiently during the period of the life that corresponds to the period in which the bulls are measured, that is from about weaning to a year of age. The efficiency of gain and the efficiency of maintenance are not the same thing, however. I would not expect the efficiency of gain for a bull on a 140-day test to be highly related to the efficiency of maintenance for a mature cow.

*Carcass specification is the popular topic today. How will testing contribute to our selection toward this area?*

## RUSS PEPPER

To identify those bulls whose progeny have superior carcasses, we are going to have to identify more commercial cattle and select those sired by bulls siring the best carcasses.

## LEO McDONNELL Jr.

We have been letting the feeder, packer, and government grading system control our industry too much. In return, they have stifled progress and favorable market changes along with failing to adjust and meet consumer wants.

You need to remember that a) the packer has never been known for premiums; what he is known for is discounts. As we see an increase in the consolidation of the packing industry, we will see a decline in competition within it which will almost certainly be followed by a decline in innovation and the ability to change and adapt to consumer desires and needs. Their sudden outspokenness on a need for leaner beef this last year is in itself evidence of this. Most of us have known or been aware of this consumer need and change for the last 10 years—where have they been?

Remember, too, that b) the government grading system is outdated and aids packers in discounts but does not allow the feeder and rancher to produce the product consumers desire. A good example is the fact that the grading system does not allow enough for youth of carcass as an aid in the tenderness factor.

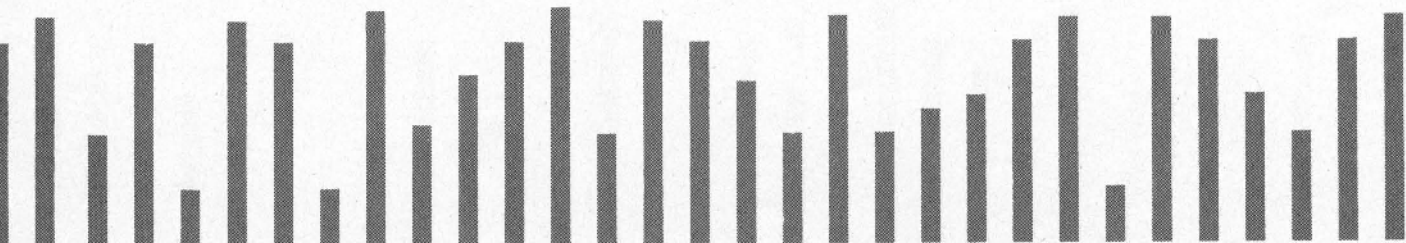
We measure back fat (BF). We started this in the late 1960s to help aid in determining the composition of gain—"lean gain/day". We are also looking into measuring ribeye again in the near future.

Although carcass "specs" are a popular topic today, don't get carried away with this new trend. It may be the most dangerous trend we've ever had, especially coming out of this height race we've seen.

Carcass traits on the most part are highly heritable but have a low impact on the profitability of a cow-calf operation. Reproduction, though, has a low heritability and is 10 times more important to the rancher than carcass traits. That, you have to remember.

## "RONNIE" SILCOX

Many central tests now include fat thickness measurements on bulls. Recent developments in ultra-sound may make loin-eye area measurements practical in the future. Right now, visual appraisal is about all you have short of killing the bull.



What should breeders and consignors remember about the central testing concept? And what should buyers remember about central testing?

## RUSS PEPPER

Breeders and consignors should remember that central tests were designed to give a comparison among contemporaries. It is to provide information on bulls fed together in the same environment to a breeder. It should help a breeder improve the genetics of his own herd. Some breeders have used central tests as a means of merchandising their cattle and have not used the information provided by the test on their cattle in their breeding programs.

Buyers should remember that this is a very exclusive cut of bulls that come to the test to be compared. They represent the top end of many calf crops. Where else can a buyer go and get the opportunity to purchase the top end of so many breeder's bull crops? Buyers should also remember that the ratios of these bulls have to reflect that one-half of them ratio 100 or better and one-half of them under 100. Even those with ratios of less than 100 on ratios from the test center are superior to many of the bulls offered for sale.

The following comments are from Max Henthorne, HSD Feedlot, Vaughn, Mont., where the bulls are tested at Treasure Test Center. In addition, he runs commercial cattle and has used mostly Angus bulls recently.

"An analysis or review of the cattle industry must address the fact that at least 70 percent of all progeny will eventually be put on a high grain diet. I see more of this in the future as less yearlings and more calves are placed in feedlots due to supply and higher input cost, interest cost, labor cost, and money turnover.

"This means that bulls' calves grown for the commercial producer need to be challenged to the extent that his progeny can handle this ration and environment.

"Ten years ago all feedlots had a continuing problem of bloat. Today, it is of minor significance and I believe the major reason is that bulls challenged during the test period died before they sired any calves with the same problem.

"The same is true of foot problems in bulls. I don't want a bull whose calves are prone to founder.

"Historically, Angus cattle have excelled in early maturity, mothering ability, and marbling. Their biggest problem has been too many small-framed cattle that finish with too light a carcass weight. While the Angus breed has concentrated on a larger frame to correct this and a lot of progressive ranchers are buying the big-framed, meaty bulls, this has not filtered down to the average cattlemen enough today."

## LEO McDONNELL Jr.

The purpose of a performance test is to measure and record genetic differences among individuals through a standard segment of growth and development that is relevant to the cattle industry.

When a breeder or consignor becomes involved in a central test, he is entering a performance environment, and performance with its respective traits can be defined as anything that affects the profitability of a cattle operation. Therefore, the data collected and published at a test center must be objective data that can be collected with a high degree of accuracy. The traits measured must have a medium to high correlation to those traits that are important to the cattle business.

Certainly, no one program is going to answer everyone's needs or be all-encompassing, but here, as much information as possible is made available to keep each breed in balance with itself. From this information you can make your own decisions about which bull best fits your needs, and you can bet as a buyer you will get more predictability from a program like this than anywhere else. The buyer is offered only the elite from each herd at a test station—it is the showcase for performance herds.

## "RONNIE" SILCOX

Central tests are a valuable promotional tool for Angus breeders. They also help acquaint commercial breeders with performance data. As a method of genetic evaluation, however, an on-farm test combined with NCE is better than splitting contemporary groups to send bulls to central tests. In order to get valid yearling data from a central test included in NCE, you must have at least two sons of at least two sires from the same weaning contemporary group finish the test.

Central test sales are an excellent place to buy bulls. Entry requirements and culling levels are usually high and breeders tend to send some of their best bulls. Even the lower indexing bulls are pretty good.

At the Tifton, Ga., sale last year, the "short" Angus bulls had a yearling hip height of 49 inches or more (Frame 5). As I watched bulls sell, I noticed that one to two inches of height made \$100-\$200 difference in sales price. When you run a Frame 5 bull into the ring right behind a Frame 7, he looks short.

Keep in mind that bulls at a central test sale are an above average group. A very good commercial bull may look a little shabby when he stands beside one of these top animals.

AJ

