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ointing out it had been 20 years since the Angus breed had staged a type conference, Chairman of the All-American Angus Breeders' Futurity Tom Burke stated:

**"The goal is not to present type in the sense of revolution, but rather to improve what we have in this great breed."**

*Proceedings*  
*from the*  
**ALL-AMERICAN  
TYPE CONFERENCE**

*Executive Inn*  
*Louisville, Kentucky*  
*August 3, 1986*

Conference moderator Dick Beck of the American Angus Hall of Fame presented the panel of speakers from the beef industry and land grant universities and introduced the reaction panel:

**Speakers:**

- Dr. Gary Minish, Virginia Polytechnic Institute—Opening remarks
- Dr. Art Linton, Montana State University—Fertility
- Keith Vander Velde, American Breeders Service—Calving ease
- Dr. Roy Wallace, Select Sires Inc.—Milking ability
- John Francis, National Live Stock & Meat Board—Carcass
- Dr. Bob Kropp, Oklahoma State University—Structural correctness
- Dr. Harlan Ritchie, Michigan State University—Frame size
- Dr. Doug Parrett, University of Illinois—Summary remarks

**Reaction panel of Angus breeders:**

- Ken Conway, Briggs, Texas
- Larry Cotton, Howell, Michigan
- Jerry Fitzgerald, Harrison, Nebraska
- Jim Hough, Lakeville, Connecticut
- Eldon Krebs, Gordon, Nebraska
- Harvey Lemmon, Woodbury, Georgia
- Mark Richardson, Milton, Indiana
- Vance Uden, Franklin, Nebraska
- Stan Watts, Blountville, Tennessee
- Bill Wilson, Cloverdale, Indiana

**T · H · E · S · E      T · I · M · E · S**

**Dr. Gary Minish . . .**

"Our goal should be to answer three questions on six traits:

- 1) How important is it to the breed; 2) what is the current status within the breed; 3) and what adjustments need to be taken to take the trait to the position desired.

"An Angus type conference is long overdue. Twenty years is too long. Today, we seem to rank our major traits in this order of priority: frame size, milking ability, fertility, calving ease, structure, carcass merit. In the future we may have to consider this ranking: carcass traits, structure, fertility, calving ease, milking ability, and frame size. . . .

"We started to emphasize frame size in 1968 and now it's time to stop. We've played this one too long. . . .

"We must make sure milk performance is accurately measured. The Angus breed is likely not going to be called upon to be a heavy-milking breed, but British breeds

Conference audience and the reaction panel were asked to assign percentages to these six areas of selection:

- \_\_\_\_\_ Frame size
- \_\_\_\_\_ Weight per day of age
- \_\_\_\_\_ Body composition
- \_\_\_\_\_ Structural soundness
- \_\_\_\_\_ Breed character
- \_\_\_\_\_ Sex character

will be called upon to be fertile. . . . The soundest breeds have been the British breeds. Angus have had the soundest feet and legs and have been the freest-moving cattle. That's highly heritable—70 percent. . . .

"As carcass selection has been on the bottom of our priority selection, we've lost some of the muscling in the Angus breed. The breed will be called upon to provide lean, muscular cattle with high cutability and quality without getting fat. I think it's time to change directions—people change, times change, standards change, and now it's time, I think, for us to make needed changes in the Angus breed."

#### Dr. Art Linton . . .

"In my estimation, the number one reason for the popularity of the Angus breed today is the fact they have a high reproductive rate under a broad range of environmental conditions. . . .

"Reproductive performance is the best barometer of the 'fit' of herd genetics to the environment. It is the single most important trait in determining the profitability of a commercial cow-calf operation. Culling must be practiced. Selection directly for fertility is difficult. . . .

"From *Kress et al*, 1986: 'The biological types of cows with the greatest productivity were intermediate in weight, intermediate in milk production, and early in sexual maturity. . . .'"

#### Keith Vander Velde . . .

"Calving ease is very important in our segment of the industry, and that's the # one question—what is the calving ease score of the bull? What can I expect? In the A.I. industry, the most heavily used bulls will be calving ease sires. Where is that range of acceptable calving ease? Where is the middle-of-the-road? Is Angus calving ease compatible to the end-user? Are we user-friendly? The Angus breed is averaging 76 pounds birth weight. . . .

"Last year in the Angus breed registrations, 13.35 percent of the 156,000 calves registered came from 10 sires. The average birth weight EPD of that group of bulls was 6.6 pounds. That's big—that represents 13 percent of the population. That's potentially a lot of high birth weight bulls coming on the scene in the Angus breed. . . .

"The best solution is to place emphasis on the problem and work to solve it. Other breeds have shown it's possible to reduce the amount of calving difficulty from birth weights. When are we really going to get serious about it in the Angus breed?"

#### Dr. Roy Wallace . . .

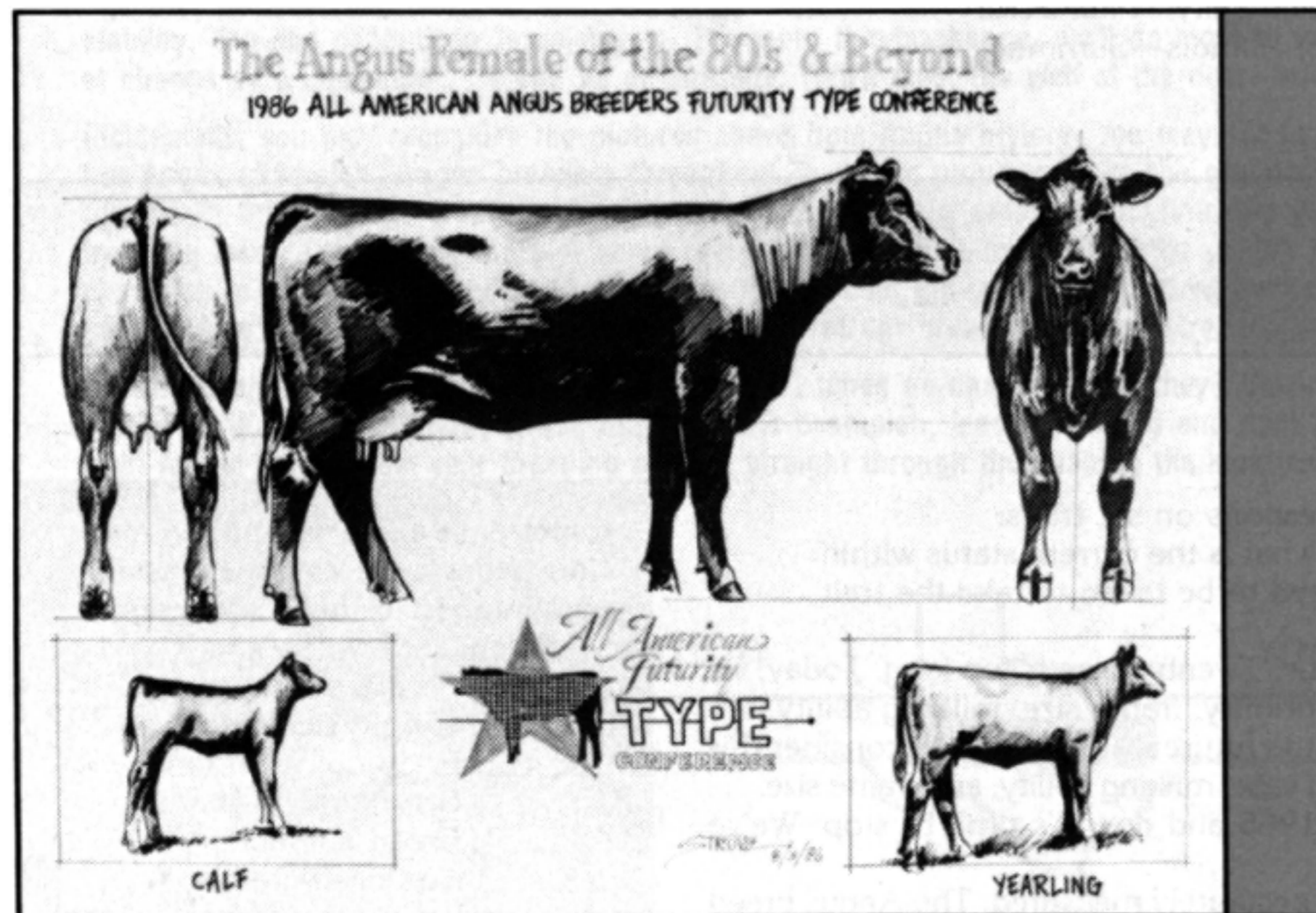
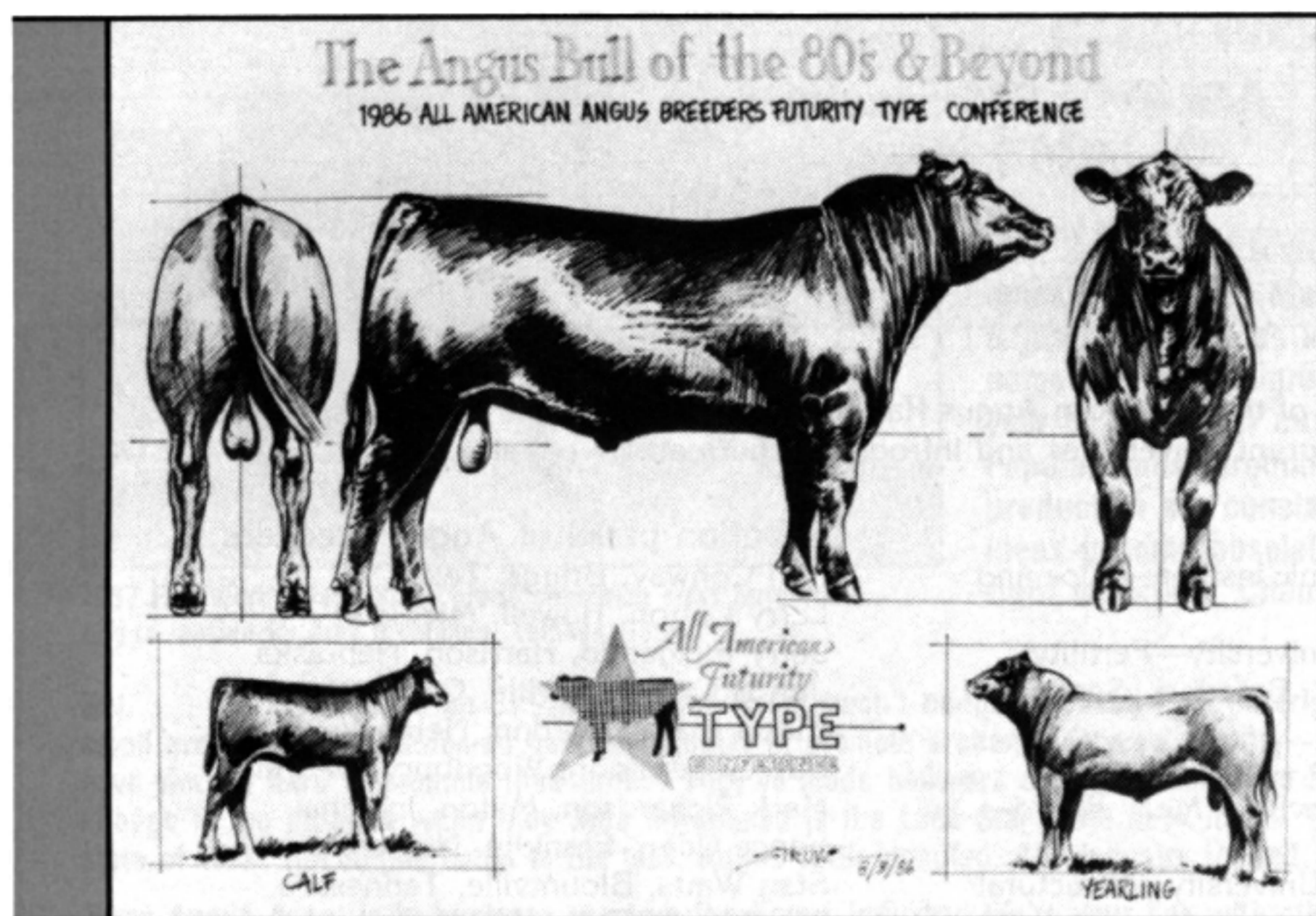
"You cannot increase milk production after it has peaked on the lactation curve. You must use high-quality forages or increase the use of grain to boost the amount of TDN to supply these cows. There's some hard evidence telling us as birth weights go up, milk production goes down. If you use milk production in your selection criteria, and not rely on single trait selection, I think you can easily make a pound to two pounds of genetic milk across the board per year. Angus milk production is a perfect example of a trait there's been no selection toward, so it has stayed static. You now have 1,400-pound cows with no more milk production than a 900-pound cow. . . .

"Use the bulls that have high accuracies in your sire summary for pure milk. You can do very little selection on the cow herself by culling for milk production. You need to increase the amount of milk that is totally available within the population so that you can supply an environment that will capitalize on the growth that you have put in your Angus cattle over the past 20 years."

#### Dr. Bob Kropp . . .

"Most of the unsoundness or lameness we see in cattle is not a product of limb structure as to unsoundness in the feet. However, bad limb structure can create bad feet over the year. The post-legged condition gives us the most problems in leg soundness. As we strive toward a level rump selection in cattle, it probably drives us toward a selection for post-legged condition. . . .

"However, we have very few cattle in



Artistic interpretation by Galen Struve, Blue Springs, Mo.

our show ring today that are too straight-legged, though we do see more that are cow-hocked because the cattle are light muscled; they don't have enough muscle structure to keep the hocks spread. However, these animals do not put a tremendous amount of strain on the hock joint itself. I don't think I've ever seen a cow-hocked individual that's been physically unsound. Likewise, a sickle-hocked animal has to be extremely sickle-hocked to be unsound. A post-legged animal does not have to be very post-legged to be unsound. . . .

"Simply out-of-toe in front does not mean splay-footedness nor is it unsound. As we have cattle getting heavier, a slight amount of out-of-toe may be desirable. When you start aggravating this and getting things extremely out-of-toe in front in which the front limbs start pointing out or even north and south where it hinders the animal's movement and travel, then we can get into some real problems. . . .

"A bad foot can exert considerable influence on the shape of the leg, especially as the animal advances in age. However, poor leg conformation can have a bad influence on the feet and the wear of the feet and distribution of weight."

#### **Dr. Harlan Ritchie . . .**

"In the Angus breed, frame score trend is to increase .15 of a frame score per year. We need to ask ourselves this very

basic question: What does frame size tell us or predict? It indicates the feed resources needed to maintain fertility. It's a very good predictor of birth weight. It is an indicator of mature weight. It is correlated with early growth indirectly. . . .

"The most important function frame size serves is predicting optimal slaughter weight, the end-point of young cattle. Today's largest Angus calves are big enough to meet industry needs. There's probably little or no reason to make the biggest ones even bigger. We need to be aware of overreacting and making radical shifts in the opposite direction. We need to select for early growth within an acceptable frame size and range. Focus more attention on economically important traits that are being discussed here at this conference. We must become more product-oriented. Top priority must be given to identifying those lines of Angus cattle that have the best combination of muscling, marbling, and external finish. It must be accomplished without jeopardizing the improvement we've already made in the breed in early growth and other traits as well."

#### **John Francis . . .**

"One kind of beef will not satisfy all customers. Consumers for the most part want a product that is lean, tastes good, and is easy to prepare. Consumers, as

well as packers, are looking for a product that is consistent. . . .

"We need to pay attention to narrowing the variability of our product; consistency is something we simply don't have in the beef industry today, particularly as we have more and more breeds and more and more genetics and differences. Put yourself in the eyes of the consumer."

#### **Dr. Doug Parrett . . .**

"There's a lot of room for diversification whether it's for environment, markets, or different breed preferences. Angus are one of the few breeds that offer such a combination of traits on the cow side and also on the packer side. We have to ask ourselves, do we keep heading the direction we're heading . . . ?

"There are optimum levels of milk production. We can select for a change in milk production. You need to find out what level you're at and where are your customers: Is milk a problem? Do you have enough feed to support more milk . . . ?

"Breeders have not received a premium for superior carcasses. John Francis is talking about right now as we will get a lot of pressure in the industry to form and shape cattle for specifications. Lean beef will become a reality. With our feeding management skills, we can alter carcass composition more rapidly than you can change the amount of muscle they have

or don't have. We just need to market our cattle at the proper finish level. . . .

"We need to educate ourselves on the grades and standards. Then, how do I get my cattle to the level to where I can receive a premium? Muscle and milk are antagonistic; there's no free load. . . .

"Structural soundness—cattle have to

be sound to be normally efficient. It's highly heritable; problems can be magnified rapidly. Frame size is a concept of diminishing returns—how much bigger can cattle get at the expense of other traits? Bigger frames have made the purebred Angus steer competitive today with the crossbreds for they can deliver the

carcass weight and leanness desired. . . .

"Our panel wants diversification. Sire summaries and non-parent EPDs are going to be the most valuable tools you will have for breeding and mating cattle in the future. Identify a type of cattle, back them up with performance reliability, then you'll have cattle that will be compatible. They'll be low-risk cattle with acceptable types in verifiable packages due to data. . . .

"We have minimums on our traits, and different people have different priorities. It may be time for the Angus breeder to take frame size out of the number one ranking, but don't regress. Pay attention to the traits that will keep you in business. Know your environment and what kind of cattle will perform to optimum levels in a certain feed and climate environment. Know your market and develop cattle to expand that market."

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## Reactions from:

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### Ken Conway . . .

"Whether frame score is important to you depends on your individual herd. We're dealing here with averages, and the individual breeder needs to decide if frame score or milk is still important to him. . . .

### Larry Cotton . . .

"Maybe we've not been goal and product-oriented enough. That's something we should be more aware of if we're producing bulls to go out into the commercial environment where we're competing with other breeds. . . .

"For the last 10 years we've used single trait selection for size and we've been successful as people were willing to pay for it.

"The dichotomies I see developing is while we're going for a leaner product, we go out to the rancher and he says, I want cattle that are natural fleshing and easy keeping. . . ."

**Cotton's ranking:** FS—40%; WDA—10%; Body Composition—25%; Structural Soundness—15%; Breed Character—five percent; Sex Character—five percent.

### Jerry Fitzgerald . . .

"Height doesn't mean much in the country I live in and for the people I deal with. Length and thickness mean a lot to them and those are some things we haven't addressed. . . .

"Is there a difference in a calf's birthweight because he's longer or just bigger . . . ?

"We're all getting calves that hit a 90-100-pound birthweight and it's not a use-

ful thing for those commercial producers. If the calf was four inches shorter, would he weigh 75 or 80 pounds . . . ?

"If that average cow has gone up a frame score size or two, then she's going into winter thinner. Those cows will take more feed to survive. . . .

"As we've increased frame size, we've put some problems back into it. Another thing we've seen is a percent to a two percent lower pregnancy rate. . . .

"We have to use roughage in our country, and it has to be native roughage."  
**Fitzgerald's ranking:** FS—30%; WDA—15%; BC—15%; SS—20%; Breed—10%; SC—10%.

### **Jim Hough . . .**

"We're probably breeding and selecting too many cattle that have too many faults. . . .

"If we look at the cattle in the barns across the road, they're certainly big enough. We just need more that are good enough. We need to breed more cattle that are fault-free than in the past."

**Hough's ranking:** FS—15%; WDA—five percent; BC—50%; SS—15%; Breed—five percent; SC—10%.

### **Harvey Lemmon . . .**

"We need to keep these genetic differences that we have because the commercial cattleman has got all different types of breed combinations and mongrelization of beef cows. . . . Predictability is the main thing we have to sell as a purebred breeder. . . .

"Four years ago, the Association survey of commercial cattlemen found the trait highest in their minds was calving ease. The last survey indicated fertility was most important. . . .

"We need to keep management as constant as we can for our cows, treat all the cows the same, and let the records tell us what they will. . . . I would rather have a cow that is somewhat structurally incorrect that will milk and raise a calf than one that's very correct and pretty but does not milk. . . .

"I would prefer to rank structural soundness first in the ranking with weight per day of age and body composition about equal, then sex character, frame size, and breed character."

### **Mark Richardson . . .**

"One way to look at these traits is as a breed on the whole which, to me, is a totally different thing than an individual breeder evaluating these traits for the significance of his program. . . .

"Where would we be today if in the 1940s and Fifties there weren't a few stubborn breeders. . . . who stuck to their guns and bred the kind of cattle they thought would work . . . ?

"Environment differences, which are re-

lated to our markets, add to the diversity of our breed and to its strength."

**Richardson's ranking:** FS—20%; WDA—20%; BC—20%; SS—20%; Breed—five percent; SC—15%.

### Vance Uden . . .

"We need a common sense approach without any radical change. . . . Milk is controversial. In our country, a five to 10-pound plus rating on milk may be all we can stand. But, this is America, and some folks think when a little is good, more is better. . . .

"Frame? When you deliver as many bulls in as big an area as I do, you'll see we've got a lot of cattle that aren't big enough yet. As we've increased frame size, we've heard feedback on a little lower calf crop percentage, a little harder breeding back. . . .

"Correctness does not seem to be a problem in commercial country yet, but with open A.I. and some of the cattle we have, we could get into some real problems in two or three generations. . . .

"One of the concerns I have for the breed is we need more breeders and fewer followers."

### Stan Watts . . .

"We must realize we're not an entity in ourselves. We are a supply industry, supplying germ plasm. . . .

"Form must follow function. Putting pressure on fertility: If you provide an environment where 90 percent of your cows rebreed, then you provide enough for the other 10 percent to rebreed. . . .

"Moderate-type cows usually function better. She doesn't need to be a great deal smaller, perhaps with a little wider chest floor than some of the Angus cows we see today. She may have a little more depth of rib and more spring of rib, and I personally think, she may have a little more slope to her rump.

"We can create calving and structural problems with too straight a rump. She may be more functional with a bit more slope from hooks to pins."

**Watt's ranking:** FS—15%; WDA—20%; BC—25%; SS—25%; Breed—five percent; Sex—10%.

### Bill Wilson . . .

"The people I'm in business with are there to make a profit. The way to do this is to produce what people want to buy. . . .

"What your customers want should dictate your program. Let's not overreact but be moderate. . . . There's a place for all these cattle regardless of where they stand in the show or what they offer. We have to be smart enough to blend these traits together to make our breed a better one."

**Wilson's ranking:** FS—20%; WDA—20%; BC—20%; SS—20%; Breed—10%; Sex—10%.

### Eldon Krebs . . .

"The experts on this program are really the breeders out there, and they know we're going through a critical era in structural correctness. . . .

"I like large-framed cattle as well as anyone, and most of us have come up through the era when we were looking for that 'changer' bull. Maybe we've reached the point where we don't need to search for this 'changer' bull anymore. Quality and balance may be more necessary now. . . .

"(w)e work with packer buyers quite a bit . . . and we hear about oversize loin eyes. Most restaurants do not have a market for a \$30 piece of meat. . . .

"Those of us who judge shows will have to decide if we want to put up extreme kinds or more the ideal where our end results should be. . . . I don't want to see extremes leave the breed because this is what's fun for us, to breed two evils to get one right."

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*(Audience average ranking: Frame Score—14.5%; WDA—14%; Body Composition—22%; Structural Soundness—25%; Breed Character—10%; Sex Character—13%.)*

## *Function first, then form*

What makes an ideal animal, in the show ring or in the pasture? That depends upon what they are being bred for, said members of a special "Judges" panel at the kickoff of the Texas and Southwest Angus Symposium June 27, 1986, after the South Central Regional Junior Angus Preview Show at the state fairgrounds in Dallas.

Panel members were Dr. Bob Kropp, Oklahoma State University, Stillwater; John Maurer, Granada Inc., Wheelock, Texas; and Bill Wilson, Premier Inc., Cloverdale, Ind. Moderator was Dick Beck, Angus Hall of Fame, Smithville, Mo.

Size, or more specifically frame score, came in for a good deal of discussion. Kropp pointed out that big animals are needed in order to increase the average frame score size in a herd. Frame score is 40 percent to 50 percent heritable, Kropp explained, and if you breed a frame score 7 or 8 bull to frame 4 or 5 cows, you can expect to increase the average frame score size of the offspring by .2 inch. That means it takes 10 years to increase the average size of your cows by one inch, he said.

A steer can't be over 53 or 54 inches at the hip and still finish at 1,200 pounds and grade high Good or Choice, Kropp said. The important thing about any beef cattle is that they grow fast and efficiently to 12 months of age and produce a lean, USDA Choice grade carcass.

Kropp recommended that breeders also focus on where their product is going. The commercial industry needs to produce cattle that will yield 600- to 800-pound carcasses, he said, so this means that the steers must finish at between 1,000 and 1,250 pounds and grade at least low Choice. There is also a market for higher quality beef as expressed in the growth of the CAB (Certified Angus Beef) program, Kropp said, plus a demand for a much leaner product.

Once a breeder has exceeded frame score seven in the cattle he produces, it is time to concentrate on other traits such as growth and structural soundness, Kropp said.

John Maurer emphasized the need for structural soundness, and said that it is receiving much more attention today. Starting from the ground up Maurer said that cattle need large symmetrical feet that are free of cracks and corns.

The pasterns should have a 40 to 50 percent slope and the center of the cannon bone should come out of the center of the knee. Some people want perfectly straight feet, Maurer said, but he feels that a slight splay presents no problem. The shoulder, he said, should be long and sloping and well tied in to the body. As cattle get big we see more open-fronted

cattle with rough shoulders, he observed.

In the rear, cattle need adequate angulation of the hock. They should be straight from the hooks to the pins and with adequate width at the pins. Finally Maurer used cattle from the junior show to demonstrate how correct structure contributes to walking soundness.

Wilson emphasized his desire for femininity and breed character in Angus cattle. As cattle get bigger the females tend to be less feminine and more coarse, he

said. A bull should look like a football player and a female should look like a pretty girl, Wilson emphasized. He said that feminine cows in his herd seem to produce cattle more like themselves.

"We are going to moderate size," Wilson said. "We will keep the size we have but we have to improve on other traits." Wilson said that in the Premier operation they are using AHIR records to identify cows with outstanding maternal traits and calving ease. **AJ**