

## Where Do We Go From Here?

Dr. Harlan Ritchie  
Michigan State University

My first impression of the conference was if I am planning a meeting, I am going to hold it at Oklahoma State. I have never seen a place in my life that could get a crowd like OSU can. I have been around several conferences held at OSU. They are always well attended and properly conducted.

In addition, practically everyone that I respect in the beef cattle industry was either on the program or sitting in the audience. I truly mean that. I respect all of you and I am humbled by the fact that I have been given this assignment.

As Bob Totusek mentioned yesterday when he launched the conference, he asked the question "Why are we here?" The answer is to seek the truth. There are three basic reasons why we are here: 1) to determine what the industry needs and wants, 2) how can we make the necessary adjustments to produce what the industry needs and wants, and 3) if we make these necessary adjustments will it make our industry more competitive in the future? We have been given some tools to help us answer those questions.

I tell students that they should have heroes. Some of mine are here. Everyone here is someone that I respect, but there are four that I wanted to mention in particular. When I started out in university work, my heroes were guys like Bob Totusek, Bill Pope, Bob Long, and Don Good. Don is not here, the other three are and they have been on the program. They deliver just as well today as they did when I was just a cub professor coming on to the scene and I wanted to acknowledge them.

Where do we go from here? My analysis of the industry is that we are presently in pretty good shape. Sure, we can complain a bit but we've got a lot to be thankful for. The beef referendum apparently passed. Prices are good. The attitude of breeders and producers is the best that I can ever remember as far as wanting to progress and move ahead in the industry.

It hasn't always been that way. Jack Allen, a beef distribution specialist, has said, "Prior to 1986 beef marketing could be characterized as 25 years of tradition unhampered by progress." In the production sector, we have seen that as well.

It is exciting that there has been more change in the product and in its image in the past 24 months than in the previous 30 years. Before I came here I tried to put together some things that I thought would come out of the conference and then adjust them as the conference went along, and I will try to present those at this time.

A little bit of where we've been before we get into the future. Larry Cundiff alluded yesterday to a very interesting study. He did not have the data yesterday, but he talked about a project that MARC had

started a couple of years ago. They used original Hereford and Angus sires, born prior to 1969, and current Hereford and Angus sires, born since 1982, on MARC owned cows to see what change may have been made since 1969. The study showed some rather dramatic changes in growth; however, at weaning and at slaughter there really hasn't been any change in carcass characteristics. Percent grading choice is about the same, 77% versus 78%; fat thickness about the same; ribeye area about the same; yield grade the same; tenderness, shear force, about the same. We have changed growth rate and size, but we really haven't changed the product. So, since 1969, in 19 years, we have changed the growth of our cattle considerably, but the carcass, the product, really, is about the same as it was.

### **The Mission.**

1. First of all, I think we agree from this conference, we need to stabilize frame size to fit market needs as well as to fit the environment.
2. We need continued improvement in early growth within an acceptable frame size range, but beware of unacceptable increases in birth weight and calving difficulty.
3. We need some increase in muscle thickness without reducing overall productivity. Ribeyes too large for acceptable portion size, reduced quality grade, larger cow size and higher maintenance costs, later sexual maturity, longer gestation period and lower birth rates are the risks in selecting for extreme muscling.
4. Some reduction in external fat without jeopardizing reproduction or marbling is necessary. Reduced quality grade, later sexual maturity, harder doing cows, lower fertility, and increased calving difficulty may be risks associated with selection toward excessive leanness.
5. We absolutely need to eliminate cattle with problems, fertility problems, structural problems, disposition problems. We are moving fast. We can't stand problem cattle. This can easily be taken care of through culling.

### **Now the Mechanics:**

1. We need to use performance. In this case the EPDs to select for early growth, calving ease and maternal ability. We heard a very dramatic presentation from Larry Benyshek, Roy Wallace and Henry Gardiner on the theory and the effective use of EPDs. EPDs are effective if we have accurate and an adequate amount of data. Hopefully in the future, we could add carcass traits and perhaps even reproductive traits.

2. Cull against functional unsoundness. The breeding soundness exam which includes scrotal circumference, is an excellent tool. Simple visual observation for structural problems and poor disposition would also be effective.
3. Selection for carcass merit within a breed. We have three main avenues for selection for carcass merit:
  - (a) Visual Appraisal: Cattle are still bought on a visual basis. That may change some, but the eyeball will always play a major role.
  - (b) Instrumentation: The possibility of ultra sound in evaluating carcass merit in breeding animals could be a very, very important breakthrough.
  - (c) Carcass EPDs as more sires are evaluated.

So much for within the breed. There are several avenues for altering carcass composition in the population of cattle.

1. Reduced time on feed. Avoid overfeeding cattle in feedlots. We've seen the dramatic impact of trimming excess fat and the impact that has had on the demand for our product. About 87% of the beef at the retail level now is trimmed.
2. Breed complimentary - by crossing breeds and thereby, changing carcass composition.
3. Recombinant DNA technology, commonly referred to as genetic engineering. As Martin Jorgenson said so well, "purebred breeders must be prepared to harness the possible advantages of genetic engineering when it does come."
4. Repartitioning agents. Primarily growth hormone and a family of compounds known as Beta Antagonist. Millions of dollars are being spent on research by private industry on these products. If they are approved by FDA they could have some interesting and very dramatic implications for the meat industry. Repartitioning agents are compounds that will repartition nutrients from fat production into lean production and thereby increase the lean deposition in the carcass.

The cow/calf industry could keep moderate sized, easy fleshing cow herds, having reasonable maintenance requirements and high fertility. By using repartitioning agents on their progeny, the feedlot industry could enhance growth rate and feed efficiency, reduce fat deposition, and produce more muscular carcasses within a desirable weight range.

A potential problem may be maintaining palatability while simultaneously reducing fat and increasing muscle. Research out of Ireland, using repartitioning agents, has demonstrated a 30% increase in average daily gain, 31% improvement in feed efficiency, a 38% decline in separable carcass fat, a 17%

increase in total carcass lean and a 41% increase in ribeye area by feeding repartitioning agents to Fresian steers for a short 13 week period. Dramatic results!

We don't know if they will be approved yet but it could impact the red meat industry quite dramatically.

On the subject of carcass, Rex Butterfield made this statement in 1973, 15 years ago, at a Polled Hereford Conference at Kansas State University, and I quote, "The ideal carcass is one which yields a maximum percentage of muscle, a minimum percentage of bone, and enough fat to meet the minimum quality requirements of the marketplace. It must be produced economically within the limits of functionally efficient cattle." I think this says a whole lot. It said a whole lot then, I think it says a whole lot today.

The following steer represents the ideal end product as well as any steer shown during the conference. The steer weighs 1272, stands 54 3/4" tall, has an ultrasonic fat thickness of .35 in., ribeye area is 16 square inches. If we assume a 2% kidney, heart and pelvic fat, his yield grade would be 1.8. Visually, he appears likely to grade U.S.D.A. Choice. If he dressed 63%, he would produce an 800 lb. carcass which might be a little on the heavy side according to the specs that were drawn out for us yesterday. I would like to stretch those specs to accommodate an 800 lb. carcass because frankly, a 600-800 lb. carcass range should be satisfactory to the industry as a whole.



Grand Champion Steer 1988 National Western Stock Show on foot and on the rail. Live weight 1272 lbs. Hip height 54.5 inches. 0.3 inch fat. 16.4 square inch LEA. Average Choice. Yield grade 1.9.

This steer meets those specs and I think he is visually appealing enough that we can live with that kind. One thing we might change on him is his age (18 months). We would like to see him weigh 1270 at a younger age. We want to get cattle killed younger. In fact, Charles Mostek, our representative from IBP, indicated that he wished we could kill cattle at a younger age and if there were some way to document it, to validate it, IBP would like to move in that direction.

We can agree, we don't want extra large frame, light muscled, hard doing bulls that sire feeder and slaughter cattle that produce light muscled carcasses that will not grade Choice. We don't need the fat toad either. We've been down that road. Many of you have, I sure have. Shocking that we got them that small, but we did. We don't need cattle approaching double muscling either. We know the risks and penalties of extreme muscling.

We are talking about practical, useful cattle with capacity and volume, durability and natural thickness. Cattle, that when slaughtered will produce a consumer acceptable product with adequate quality, but minimal fat trim. If cattle have enough finish to grade Choice, enough muscle to get into the Yield Grade 2 category and are of an acceptable carcass weight for the industry, who cares what their frame size is! We have the genetics available today to produce these kind of cattle. The Champion Steer at Denver is a good example; a magnificent steer. The steer weighted 1272 lbs, which might be a little heavy for the industry, stood 54 1/2 inches tall at the hips, graded average Choice with a 16 sq. in. ribeye and yield graded 2.0. A super steer, structurally correct, practical looking and represents what we have been talking about today.

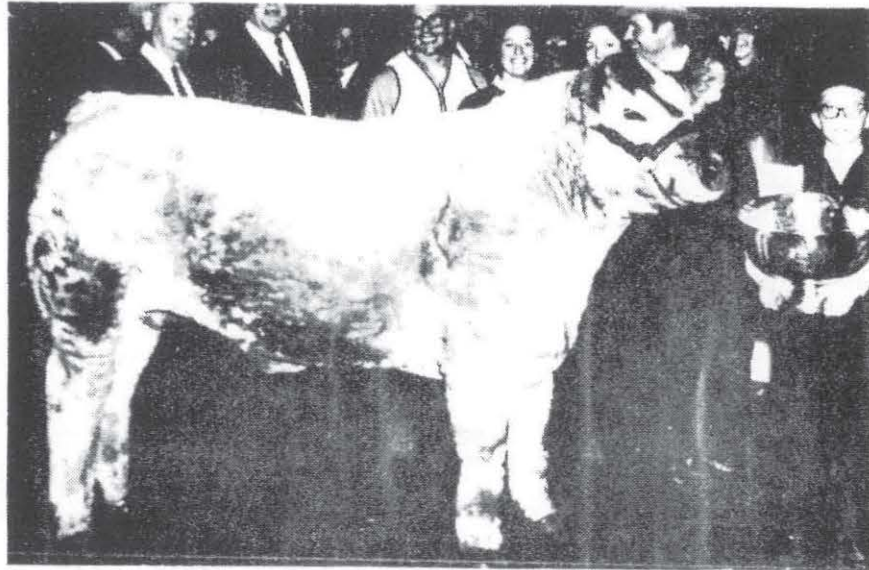
To generate these kind of cattle, we need to put more natural muscling into our breeding cattle. That has been alluded to in the conference. Remember the statement this morning, "flat, smooth muscle pattern is an excuse for using cattle that don't have any muscle?" Maybe we need bulls that have more muscle expression in them and have it validated with ultra sound measurements.

Our national cow herd still needs to be allowed to vary and be somewhat diverse. We've heard of the tremendous diversity in resources and environment that we have all over this continent and I simply can't see how we can tighten our national cow herd into one mold and make them all like they were out of a cookie cutter. There has got to be room for diversity in our national cow herd to accommodate the environment and differences in market requirements.

Again, turning back the clock, I think the following steer is still a pretty good model for today. That was Don Good's Champion Steer at the 1969 International. He weighed a little over 1200, graded Choice, & had a yield grade 2 carcass. He was a great meat animal, I think he would be a great meat animal today.

I would like to read something to you. It was written recently and I think is important for you to hear and I quote,

"The methods and practices of the past have accomplished a great deal, giving us the superior lines of livestock that we have



CONOCO - 1969 International Grand Champion Steer. This Charolais Angus crossbred weighed 1250 lbs. and graded Choice, yield grade 2. Dr. Don Good helped to change the direction of the industry when he selected this outstanding steer - the first crossbred to win a major show.

today, but these methods and practices have taken us about as far as they can. The most that we can expect to do if we continue to follow them is to hold the gains that have been made. Breeding in these classes of livestock, or meat animals, in other words, is likely to become a frozen and static art. This is in marked contrast with the situation in plant breeding. There are indications, however, that livestock breeding may be at a turning point in its long history. He would be a wise man who would say exactly what direction it will take. But there is a growing feeling that something is basically wrong in the present situation. If a blueprint for future progress cannot be made at present, there is no question about the need for a fresh appraisal and analysis. All of which it should be possible to develop the main outlines of a program for further improvement."

I was teasing you a little bit. That statement was actually written in 1936 in the Yearbook of Agriculture.

We've talked alot about the past as well as the present. We need to think about the future. I would like to think about the future, the way Thomas Jefferson did and I quote, "I prefer the dreams of the future to the history of the past."

Another one that I dearly love "Our real task is not to foresee the future, but to enable it." Let's enable it.

Thank you very much.