

BREEDING FOR PROFIT AND QUALITY

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The dollar made in the beef industry in the future will more than likely be the dollar that is saved. Survival will be to those having the records that show how to keep production consistent while reducing inputs. Hopefully, new technology will allow us to merchandise a lean, healthy consumer-preferred product.

Beef quality demand is indirectly proportional to the degree of hunger. Forty thousand people will die today of starvation or starvation related diseases. It is also estimated that the world population will double in the next twenty years and will continue to exponentially. This increased population can no longer rely on large areas of future cropland development from untilled frontiers but will be confined to a very thin fragile layer of top soil for life support. A person does not have to be too futuristic or too globalistic to recognize a real agriculture production and allocation challenge. Survival will come through technology and information usage, for very few agricultural production areas are left for discovery. In 75 years everything we know today will equal three percent of the total knowledge. By the year 2010 world resource use will double. The future is now and the only thing constant is change.

In the meantime, back at the ranch or station, producers need to pay the bills today and hopefully show a profit some years. The economic return to beef production in the 21st century will be somewhere between slightly above to slightly below break even in the cow calf sector of the industry. This, I am going to comfortably predict, due to the following reasons: History has shown us the very same profit margins. If you look at ten year averages in the U.S. this hovering around break even holds true. I feel you can expect this in a free enterprise system such as Australia. If beef becomes very profitable and it rains what happens? Cow numbers increase, supply goes up, price goes down, cattle numbers decline, supply goes down, price goes up and the cycle repeats. Price is usually under break even more than it is above because the cow calf enterprise in the U.S. is more often than not subsidized by another enterprise, such as a medical practice, steel mill, school teaching, recreation, or even corn and hog production. When prices dictate that cow numbers should reduce there is a very slow reaction by those directly or indirectly supported production units. I do not expect this situation to change because of small herd sized in the U.S., 80% of calves produced from cow herds of less than 50 cows, and lack of land use alternatives and land ownership.

In this same light we should face the reality that all technological and genetic advancement made to increase efficiency in beef production has in the long run not increase profitability for the producer but has been passed on as a savings to the consumer. For example, we develop a new growth enhancement implant. Stockman Tom uses it and becomes more profitable than neighbor stockman Joe who hasn't used it. Next year, stockman Joe uses it and in two years all stockmen use it. Supply increases and the price goes down. Net profit or loss is back to where it was before the implant was developed. Our beef price reduction at the meat counter is overshadowed by the negative press on the harmful effects of hormone usage.

We have a society today that is health conscious and will continue to be. I recently heard a respected National Cattleman's Association committee member comment that health concerns were just a fad. I

personally cannot imagine a person or society desiring any less than a healthy life style. Regardless, in the last several years, fat has become a highly discussed issue in the industry. We all realize that the consumer demands a leaner product and yet we do not respond. We have heard PhD's, packer buyers, retail store managers, and dietitians tell us we need a leaner product. We have also been told about the inefficiency of putting on extra fat in the feedlot, and that it takes the entire Iowa corn crop to put on that much waste fat. Yet, we do not respond. Why? On Monday morning, I take my finisher steers to the Stuart Livestock Auction, and guess what? I'm paid more per kilo for the fat ones. Until that changes the problem will exist and when that does change, leaner ones will bring more, and then ninety percent of the problem will be eliminated in sixty days. It is not a genetic problem, it is not a feeding problem. It is a marketing problem. Why? The packing industry in the U.S. is a complaisant bottleneck in the beef chain, mainly because it is an add-on industry, no different from the truck line that hauls meat to the east coast. There are two principal reasons fat is locked into the industry: One is buying on dressing percent, namely carcass weight with fat on versus live weight, and two, trying to assure marbling for quality grade. We should be in the business of selling animal protein produced from foodstuffs unusable by single stomach animals, including man. That is what ruminants do best. Our present marketing standards and procedures have and are making this a production far less efficient than it needs to be. We have been selling cattle for decades under a no win system in the U.S.. Market cattle are either too thin for quality grade or too fat for the desirable yield grade lean-to-fat ratio. Technology is long overdue to determine consumer preference differences among carcasses. There has got to be a more consistent, predictable, non-antagonistic way of determining tenderness, flavor, and all the acceptable qualities of beef instead of visually determining how intramuscular (marbling) fat is present. Branded beef will make the processor responsible for consumer acceptance and speed up the development and usage of technology. Branded beef is a must.

It has been estimated that the U.S. consumer has an unenjoyable steak eating experience 25% of the time. Why is this still allowed to happen? Producing a tough carcass is understandable but not identifying and screening it at the dressed level and restructuring it and merchandising it for a premium as a beef pie is puzzling.

Let's talk briefly about chickens, pigs, and catfish. We have been told how efficient they are compared to a beef cow. A catfish puts on nearly a pound of meat with one pound of feed, and chickens are a lot less expensive to serve a family than beef, and of course, jumping in the same bed, or roost or pond is the other white meat, pigs. They can also convert grain more efficiently than beef. What are we to do? Is the race over? Not until you can run chickens on the cornstalks with a hot wire. We are not pure competitors at all, because the beef industry can have completely different food inputs than the single stomach meat animals. Sheep and goats are pure competitors but they even have different plant specie preferences which in turn actually makes them compatible for multispecies grazing. Nevertheless, beef has to be competitive in the meat counter. However, the stalk fields in Iowa and mountain sides in Montana will not be grazed by catfish, chickens or hogs. Cows are here so we don't have to eat grass. Cow numbers determine beef consumption, since all product is consumed; all the beef produced is consumed. Cow numbers are determined by profitability that is determined by price received minus cost. Those producers who keep their cost low can survive during depressed markets.

We talk much in the States about sustainable agriculture. What is more sustainable in agricultural production than a cow eating a renewable resource, grass? The beef slogan should be, "more beef - more cows - more grass - less soil loss". cows are very environmentally friendly and actually are solving environmental problems assisting swine operations in their enormous effluent disposal problem by intensely grazing coastal Bermuda grass irrigated with pig effluent.

The biggest psychological difference between Australian beef producers and U.S. producers is that Australian producers manage for hard times, such as droughts and poor prices. U.S. producers manage for good times. We in the U.S. are guilty of putting the cow on too high a pedestal. The cow or beef is not the product, agricultural wastes, grass and crop residues are the products. The cowman does not sell beef. The abattoir sells beef. The stockman sells grass. If we could develop a machine to chug up a mountain eating grass and pooping hamburgers we would not need a cow. Cows are garbage collectors and have to be managed extensively. Currently in Queensland, Australia, it is common to have one man per 1000 cows. It is easier to change product portion size, fat content, tenderness, juiciness, etc. In other words, match cows to environments and use technology to ensure consumer demand. We do not grow trees for a specific 2" x 4". The saw decides that.

We talk about matching cattle to environments at seedstock gatherings in the States but no real effort is really being made. U.S. seedstock, like most in the world, are pampered, over managed and over fed. Unfortunately most of our selection has been for appetite and mature size. I noticed recently in a beef publication a photo of the owners of the high gaining and high WDA (weight per day of age) bulls from a bull test station receiving their awards. If we really analyze this scenario how many awards should they really win? We all know the mentioned awards, gain per day and weight per day of age. How many unmentioned awards for appetite, mature size, daughter maintenance cost, increased birth weight, increased dystocia, increase labor, and reduced daughter cow inventory. The unmentioned traits could be more important than the mentioned. This concept is not new but has been often ignored.

"Hairless dogs have imperfect teeth; long haired and coarse-haired animals are apt to have long or many horns; pigeons with feathered feet have skin between their outer toes; pigeons with short beaks have small feet and those with long beaks large feet. Hence if man goes on selecting, and thus augmenting any peculiarity, he will almost certainly modify unintentionally other parts of the structure, owing to the mysterious laws of correlation."

Charles Darwin - 1859

The poultry industry of which the genetics are controlled by less than ten world companies, first put their newly developed lines in a stress house to measure the lines response to the real world rigors of chicken life. If it doesn't measure up, the line is eliminated. Do we as beef breeders come close to this practice? Purebred cows are worth too much to stress out of the herd. I analyzed seven A.I. stud bulls with comparable EBV's for weaning growth, +20 to +28 range, and comparable milk EBV's +9 to +24. These bulls came from different herds and management levels across the U.S.. The range in adjusted 205 day weights of the bulls were 484 pounds to 850 pounds. Which bull with just this information would you prefer semen from?

What changes will we see in the seedstock industry? I would like to say, hopefully, not many. We have made drastic changes in cattle types in my lifetime simply for the sake of change. This, I am confident, will moderate. I feel strongly the emphasis will no longer be of changing breeds dramatically for popularity of fads but of finding, identifying, and combining biological types to best match a market, and environment. In the last twenty years, for example, we have tried to make Herefords into Simmentals and Angus into Chianina and now we are trying to make Simmentals into Herefords and Chianina into Angus. Hopefully, in the next twenty years breeders will concentrate more on adding predictability with tools such as Expected Progeny Difference, (E.P.D.'s in the U.S. and E.B.V. in Australia) rather than change. An Angus is an Angus but with a high degree of predictability. The commercial industry can then simply match and blend predictable breeds to an environment while capitalizing on heterosis and breed

complementarity. If the industry needs, for example, an increase in disease resistance then a breed or line of cattle somewhere in the world, say South America or Africa, will be identified, introduced, evaluated and blended into our nation's cow herd to increase disease resistance. This procedure is already underway at the Meat Animal Research Center, MARC, Clay Center, Nebraska. Find, evaluate, and match!

Two big changes are the size and number of breeders and the development of composite bulls. First, we look at the chicken industry where less than ten firms control the genetics for the entire world. I am sure it will be a long time before our numbers in the beef industry reach that low level. However, fewer firms are selling more and more commercial bulls, and this trend will continue. Secondly, the development of composite bulls is becoming a rapidly growing business due to four very sound reasons. One, retained heterosis, +62 percent will always be retained in a three breed composite used on itself generation after generation. Number two, uses the advantage of breed complementarity, blending the best traits of two or more breeds. Number three, sustainable uniformity. Each calf each and every year has the same breed mix. Number four, the herd can be managed in breeding pastures with the simplicity of the straight bred cowherd. With composite use, you no longer need to sort breeds, or cross fence, and a large complete herd is suitable for intensive grazing practices. The development and use of composite bulls is not a mongrelized fad. The swine industry has been successfully using composite boars for over fifty years. For those of you conjuring negative thoughts on this subject, what do you think of the cross-bred cow?

It has been said that if the railroad lines would have been in the transportation business instead of the train business they would now own the airlines. Our National Breed Associations need to be in the seedstock business not just in a breed business. The stage is set in the U.S. for inter-breed E.P.D.'s. Each breed's E.P.D.'s could be compared on a level field with other breed's E.P.D.'s. This of course, benefits the entire industry. However, some breed associations are dragging their feet for fear their breed may look substandard in some area. There is still the misbelief that one breed is going to step forward and genetically save the beef world. This fantasy isn't going to happen in a multi-trait, multi-environmental, multi-managed industry. Inter-breed cooperation is inevitable to keep associations financially solvent and for the convenience of the commercial industry. Cooperation will come in time. Unfortunately for some due to economic pressure rather than foresight.

The biggest buzz word in the U.S. beef seedstock circles is "Optimal". It is used in advertising, believed in, sold and purchased, but what is this thing optimal? After much observation I think the best definition is what each operation has. If one has +6 birth EBV's than that's optimal because it's between 0 and +12. If one has 8 framed cattle then they are optimal because they are between 4 and 10. Unfortunately, we as an industry do not know where optimal is economically and until we can define some real economical optimum for cow size, milk level, fat cover, growth, fertility, and for most all traits, we have no idea if genetic change is good, bad, or indifferent. For example, let's say that Ian Wantmore's herd optimal milk level as measured by EBV's is between +10 and +15 pounds and his herd is currently +15. Should he pay a premium for a +20 bull? Defining optimal should be defined before further genetic change is made.

Record keeping, enterprise analysis, farm or ranch accounting, Integrated Resource Management (I.R.M.), and Standardized Performance analysis (S.P.A.), are all words that are entering a cowman's vocabulary. Comparing cow herd financial data among herds through programs like S.P.A., on a level playing field is producing valuable information and providing a big step in defining optimal. Our cow herds will be managed more extensively with their records managed more intensively. If I had to write a one sentence statement predicting the largest trend of the cow-calf sector for the next decade it would be: "More computer inputs, less cow inputs."

Where would the seedcorn industry be if they bred for corn yield by the stalk instead of by the hectare? when we add inventory to the equation of beef and genetic change it then becomes multidimensional, unclear and confusing. Seedcorn genetic production changes are direct. for example, an important trait in seedcorn breeding is yield per hectare. this trait is directly selected for. In the beef industry by contrast, we select for change in individuals but fail to measure that effect on profitability within the population. A station does not live by profit per cow but profit from the station. In other words, station A who makes \$100 profit per cow from 100 cows equals \$10,000 total which is the same for station B who makes \$80 per cow from 125 cows and totals \$10,000. Another example is running 100 bullocks on grass with 2 pound per day gain or 200 pounds of beef per day or running 120 bullocks on the pasture gaining 1.66 pounds per day which also equals 200 pounds of beef per day. It will take a very strong paradigm shift but when we stop comparing individuals and approach breeding holistically we will then make genetic economic improvement.

In summary, the dollar made in the beef industry during the next ten years will more than likely be the dollar that was saved. Survival will be to those having the records that show how to keep production consistent while reducing inputs. Hopefully, new technology will allow us to merchandise a lean, healthy consumer preferred product.

By the 21st century I still do not expect chicken and catfish to be gleaning crop aftermath. Hopefully breed associations will enter the seedstock business for the first time. Their purpose will be serving breeders with data to enhance the predictability of their germ plasm. I foresee less type change in the seedstock industry and more identifying, evaluating, and blending of biological types with inherent breed characteristics.

In conclusion, success in the beef industry will be achieved by intensive records and extensive management.