

# Beef Industry

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## FOUNDATIONS

*Nebraska Extension Beef Specialist  
Ivan Rush shares some of the hits  
and misses he's witnessed in the beef  
industry during the last 30 years.*

by *Kindra Gordon*

Producing beef is a vastly different business than it was 30 years ago, 10 years ago and even six months ago. Many advocate that animal health products, computers, electronic identification (EID), expected progeny differences (EPDs) and DNA markers have been advancements — some may argue that they have not.

Ivan Rush recently spent some time thinking about his 30-year career in the beef industry and has compiled a list of what he considers some of the fads and foundations for the industry during that time. Rush is a University of Nebraska Extension beef specialist stationed at the Panhandle Research and Extension Center in Scottsbluff.



Ivan Rush

Overall Rush says, "We need to acknowledge that the beef industry has made progress in production efficiency. We have had about a 15% increase in beef produced with a 21% decrease in cattle inventory in the past 25 years."

While Rush notes the beef industry still remains behind swine and dairy — he reports the swine industry has 28% less sows and produces 50% more pork and the dairy industry has about 30% less dairy cows and produces 30% more milk — he believes the beef industry still has some efficiency advantages.

Rush points out, "A problem with this data is that it primarily takes into account output, and not cost of production, which is

related to efficiency. Output is not always a good indication of costs and loss with profits."

Instead, Rush says the measuring stick of what has been beneficial to the industry should ultimately be based on sustained profitability, while maintaining the environment — or it will not stand the test of time.

He adds, "It seems to me that the bottom line on whether products or concepts are ultimately utilized long term is a basic question of whether they are based on sound science and if they are practical or applicable."

### THE FOUNDATIONS

Given those parameters, Rush says there are four products he believes have made a tremendous difference in the cost of producing beef. They include:

- 1. Ionophores;** for instance, Rush cites Rumensin in growing and finishing diets, which has improved feed efficiency 3-7%.
- 2. Implants;** all have earned FDA approval and have been shown to increase gain 5-15% and feed efficiency 3-10%.
- 3. Antibiotics;** Rush says these are not only beneficial for treatment, but Tylan has also been used successfully for liver abscesses in feedlot diets.
- 4. Insecticides;** all FDA-approved products have shown to be effective in both internal and external parasite control, according to Rush.

"I have estimated that if you do not utilize these four products, your cost of production will increase about \$10 per hundredweight or over \$100 per head of a finished animal," Rush says.

### Breed improvement

Another tool Rush says has brought efficiency to the beef industry is crossbreeding.

He recounts that when he first came to western Nebraska, producers either had Hereford or Angus, and they argued which was best. He says, "Some of the more traditional ranchers questioned why you would want to crossbreed and felt the black-baldie calf should only happen if the neighbor's bull jumped the fence."

Rush watched the industry as some producers went to the other end of the spectrum with Continental breeds, but crossing British and Continental was still resisted by producers.

Rush blames some of this lag in producers recognizing the value of hybrid vigor on the academic community — because they failed to make it practical at the ranch.

He cautions breeders who chase the goal of keeping their cow herd black, giving up heterosis that can be so beneficial. Rush says, "This has been done somewhat by coloring the Continental cattle black, but also by using many black Angus bulls for one of two generations. This has gotten a consistent black-hide color, but has given up heterosis, and in some cases has hurt traits that are lowly heritable — especially reproduction. Some Angus producers even suggest you can accomplish just as much within the breed by using 'outcrosses' and because of the Angus superiority over other breeds that you do not need to crossbreed.

If you assume that black Angus is a pure breed, then heterosis is lost when using only Angus genetics, which will sacrifice performance compared to other crossbreeds with equal genetics."

Like crossbreeding, Rush recalls that EPDs were not readily accepted when they were first introduced. But Rush says they have had a tremendous positive effect on cattle selection. As one example, Rush says EPDs are a tool that make it possible to breed first-calf heifers with minimum risk of calving difficulty and yet select the genetics for good feeding performance and maternal ability in those same females.

### Cattle handling and BQA

Rush says two other positives that have helped the industry produce quality and safe beef is the manner in which cattle are handled and the way products are injected.

He credits Temple Grandin and Bud Williams, animal handling specialists, for being leaders in getting the industry to recognize the benefits of handling cattle quietly and more efficiently.

### Notes on the packing industry

During the past 30 years, Ivan Rush, University of Nebraska Extension beef specialist, has noted some changes among the packing industry too.

He recounts how packers have come and gone and changed names or ownership, and says, "In a free-enterprise system when a business becomes less efficient than a competitor, they will fail or be sold."

Because of this, Rush says, "I believe we have the most efficient beef processing system in the world."

This especially hit home for Rush on a trip to Argentina. He says he was constantly questioned about the spread between the fed cattle and retail prices. And, he was repeatedly told that Argentina's margin was much greater mostly because of a less efficient slaughter and processing industry.

"I realize this is controversial because many believe the packers have too high profits, but we must acknowledge that packers also see red ink at times," Rush says.

He adds that he is amazed to see the tremendous animosity shown towards the packers — cattle feeders file lawsuits one day and then price cattle to them the next day. Similarly, many cow-calf operations find the packers as evil, and yet they have never directly sold them one animal. "They sell their cattle to the feeding industry," Rush says.

He continues, "I understand what frustration one can encounter when cattle are sold at a loss, and I also understand that it is human nature to blame others when a loss is incurred. However, until a better alternative for selling our finished cattle or cull cows is found, I believe we need to find ways to work cooperatively with the current system. The only ones I see gaining long term by suing the packers are the lawyers."

Rush concludes, "Perhaps our current system can be made better, but I believe that we have a dog-eat-dog free enterprise system in effect in the U.S. And, just as soon as any packer becomes inefficient they will be replaced, just as they were in the early 60s." **HW**

Likewise, Rush notes that processing of cattle has also changed with emphasis by the industry on Beef Quality Assurance (BQA) programs. “Even though several complaints were heard when it was requested that injection sites be kept in front of the shoulder, this is now regarded as ‘the injection site’ for any producer who cares about the quality of the product they produce,” Rush says.

### The fAds

While those products and practices have led to some advancements for the beef industry, Rush says there has been some misdirection or fads during the past 30 years as well.

As an example, he points to **frame score and the extremes that the industry has been through**. In the 70s, there was a rush to select for more height. “We assumed that a frame 7, apparently because it was a bigger number than 6, must be better, and a frame 9 would be better yet,” Rush says.

He adds, “We probably needed to add some volume and growth in some early-maturing cattle, but we went past what was needed. My dad once told me

that a steer should weigh just as much lying down on the scales as standing up. As a result of the ‘frame game,’ we found hard-keeping, low-milking and thin cows.”

But Rush is not sure the industry has learned the lesson of moderation. He says, “Now I believe we are going the opposite direction, and I question if we will again overcorrect with very small-frame, early-maturing cattle.”

Rush says another fad throughout the years has been **the many feed additives that have come and gone**.

He uses the example of inactivated microbials and says, “The problem is, these organisms or enzymes, are already present in very high quantities in the healthy rumen, so small additions may have limited benefit.”

He adds, “Yes, they are beneficial and yes, the basic science is sound, but often it is comparable to the benefit of adding a drop of water to a barrel.”

Another concept that Rush has seen come and go was the era of providing cows **free-choice or cafeteria-style vitamins and minerals**. This is when all sources of vitamins and minerals were offered in small

individual compartments or small blocks. The theory was cattle had conventional wisdom and would select the vitamins and minerals they needed to coincide with their requirements, and would gain faster than conventionally fed cattle.

Rush says, “What was overlooked was that kids in a candy store overeat what they like — and cows do too.” Controlled research was conducted at the Panhandle Research and Extension Center (PREC) with yearlings on summer pasture and found that cattle consumed supplemental Vitamin A (actually its carrier) at extremely high levels despite the fact that cattle were receiving tremendously high levels of Vitamin A (carotene) in the lush green grass. Turned out cattle did not have enough conventional wisdom to eat a balanced and economical diet.

One of the more humorous fads Rush recalls was a time when many producers were **adding a Shakley product (soap) to cattle rations**. He says, “People were buying it in 55 gallon drums and producer claims included everything from faster growth, easier calving (because of the

slippery soap), better breed back and no scours.” One purebred breeder even told him, “It just seems to put a shine on my bulls.”

That said, Rush advises producers to pay attention to reputable companies who have documented laboratory trials and practical research that backs up their product claims.

Likewise, he encourages his academic counterparts to keep a focus on practical applications for producers and to be certain that research being recommended has been tried and tested — and tested again.

With that said, Rush says looking back at the fads and foundations in the industry isn’t just a slice of history, it should “give some guidance in making future decisions as well.” **HW**